The Substance of

THE SOCIOLOGY OF LESTER F. WARD

Summarized by

CLEMENT WOOD

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PREFACE

AMONG all American writers there can be no doubt that Lester F. Ward has produced the most impressive and comprehensive system of sociology. Mr. Ward was also the earliest important American sociologist. His *Dynamic Sociology,* which many critics consider his *magnum opus,* appeared in 1883, about midway between the publication of the first and last volumes of Spencer's *Principles of Sociology.* In addition to many articles in periodicals, Ward's sociological system was embodied in six considerable volumes. Whatever may be the estimate of the future regarding the place of Ward in the history of sociology, it is certain that no other writer has approached the subject with a body of scientific knowledge which at all approximated that possessed by Ward. Herbert Spencer's *Synthetic Philosophy* undoubtedly displays more profound reasoning powers and a greater talent for the logical marshalling of evidence, but his scientific knowledge was not at all comparable to that possessed by Ward. Ward's formal scientific career was passed as a government expert in paleobotany, to which he made contributions only second in importance to his work in sociology.[1] Ward's predilection for introducing his botanical terminology into his sociology often gives the latter as strange and technical a tone as is to be found in the writings of the extreme "Organ-

[1] His academic career was limited to lectures at several university summer school sessions and six years (1906-1913) as professor of sociology at Brown University.

icists." Some of his scientific terms, however, such as "sympodial development," "synergy," "creative synthesis," "gynaecocracy," and "social telesis," are rather felicitous and have been quite generally absorbed into conventional sociological thought and expression.

An extended or comprehensive exposition of Ward's sociological system within the scope of the present introduction is manifestly impossible. Attention will be confined to a few of his cardinal contributions.

As to the subject-matter of sociology, Ward says: "My thesis is that the subject-matter of sociology is human *achievement*. It is not what men are but what they do. It is not the structure but the function." [1] As nearly all of the earlier sociologists had been concerned almost wholly with an analysis of social structure, Ward's point of approach was novel and epoch-making in its significance. The divisions of sociology are two—pure and applied. Pure sociology is theoretical and seeks to establish the principles of the science. Applied sociology is practical and points out the applications of the science. Specifically, it "deals with the artificial means of accelerating the spontaneous process of nature." [2]

In his exposition of the principle of social purpose, Ward lays down the fundamental proposition that energy must be controlled if evolution is to result. There are two possible methods of control: the unconscious control of nature manifested in growth, and the conscious direction by mind, involved in purpose. The conscious method of control by mind is manifestly superior to the unconscious control of nature. Nature is wasteful in providing an immense mass of raw material and leaving it to be improved very slowly

[1] *Pure Sociology*, p. 15.
[2] *Pure Sociology*, pp. 3, 431.

through natural selection. The tendency of mind is to economize through foresight and the adjustment of means to ends. This control of the dynamic forces of nature and society through the adjustment of means to ends is what Ward designates as "telesis." In this process of conscious or purposeful control of the social forces, the development of the state was the most important step ever taken by man or society. Nevertheless, though the state is the chief agent through which the conscious direction of the social process is and will be carried on, society cannot perfect this conscious control through any organ until there is developed an adequate and sufficiently diffused knowledge of the nature and manner of the operation of the social forces. Therefore, an adequate development of a system of education in the social sciences, which will make possible the universal diffusion of this essential knowledge, is the indispensable prerequisite to the proper development of collective purpose.

In conclusion, one may safely say that Ward's outstanding contributions to sociology were his grasp of the relation between cosmic and social evolution, and his doctrine of the superiority of the conscious over the unconscious control of the social process. In neither of these respects has he been approached by any other sociologist. Of these two cardinal contributions the latter is by far the more important, for the obvious reason that the former is at the best but picturesque and eloquent guesswork, and must always be so until the range of human knowledge is greatly extended. The latter, however, is perhaps the most important single contribution of sociology to human thought, and Ward's significance must rest chiefly upon the fact that his presentation of this conception has been the most power-

ful statement that sociology has yet produced. Professor Giddings has summed up this aspect of Ward's system with characteristic clarity:

"Throughout all Ward's work there runs one dominating and organizing thought. Human society, as we who live now know it, is not the passive product of unconscious forces. It lies within the domain of cosmic law, but so does the mind of man: and this mind of man has knowingly, artfully, adapted and readapted its social environment, and with reflective intelligence has begun to shape it into an instrument wherewith to fulfil man's will. With forecasting wisdom man will perfect it, until it shall be at once adequate and adaptable to all its uses. This he will do not by creative impulse evolving in a void, but by constructive intelligence shaping the substantial stuff of verified scientific knowledge. Wherefore, scientific knowledge must be made the possession of mankind. Education must not merely train the mind. It must also equip and store, with knowledge.

"This great thought Dr. Ward apprehended, expressed, explained, illuminated, drove home to the mind of all who read his pages, as no other writer, ancient or modern, has ever done. It is his enduring and cogent contribution to sociology."

HARRY ELMER BARNES.

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FOREWORD

LESTER F. WARD was a thinker of the first rank, to be classed with Marx, Freud, and Einstein. He stands beside these men because, like them, during a lifetime of vigorous intellectual work, he achieved one tremendous and comparatively unanswerable generalization which has permanently enriched man's thought thereafter. Marx analyzed capitalist economic society, showed the unbridgeable chasm between labor and capital, and indicated the inevitable end of that society in the abolition of the exploiting class. Freud redescribed the nominal captain of man's activities—the intellect—as the automaton slave of an invisible tyrant—the emotions—dwelling in the unconscious of man's nature. Einstein showed that neither space nor time were real, and that the only reality was a relationship between these two, with time redescribed as a dimension, which to all intents and purposes, was spatial. And Lester Ward, for the first time, solved the problem of the origin and development of the sexes. It is for this that the future will remember him, rather than for his tremendous structure of sociological thinking, or his brilliant judgment upon a thousand minor aspects of social relationships.

Ward was born on June 18, 1841, at Joliet, Illinois. His early education in the schools of Joliet and Iowa, and in the Academy of Towanda, Pennsylvania, was interrupted by the Civil War, in which he served in the Union army. During the seven years commencing

with 1865 he was employed in the United States Treasury Department. He drove ahead with his education during these years, and received from Columbia University, of Washington, D. C., the degrees of A.B. in 1869, LL.B. in 1871, and A.M. in 1873. For the next fourteen years he continued to be the assiduous student, specializing in botany. In 1881, he became assistant geologist of the United States Geological Survey, and, two years later, was given the rank of geologist. During 1884, 1885 and 1886 he was professor of botany at his Alma Mater, which later altered its name to George Washington University. In 1892, he was named paleontologist for the Geological Survey, a position which he held until 1906, when he resigned to join the faculty of Brown University, where he remained until his death, April 18, 1913.

His best known biological publications are *A Sketch of Paleobotany* (1885), *The Geographical Distribution of Fossil Plants* (1888), and *The Status of the Mesozoic Floras of the United States* (1905). His sociological publications include *Dynamic Sociology* (1883; 2nd ed. 1897), *Psychic Factors of Civilization* (1893), *Outlines of Sociology* (1898), *Sociology and Economics* (1899), *Pure Sociology* (1903), *Applied Sociology* (1906), and *Glimpses of the Cosmos,* a collection of his minor publications in six volumes, five of them posthumous, which appeared between 1913 and 1918. All of these exhibit brilliant analysis and more amazing synthesis; but his sociological thinking can be best studied from the first two titles in the above list of his sociological works, and the two volumes appearing in 1903 and 1906, and it is to them that this summarization is chiefly restricted. These four volumes total nearly three thousand pages; and modern man has neither the time nor inclination to

read such a mass of material. This book is a condensation of Ward's work. Nothing of importance is omitted; the pivotal conclusions are all given in the author's original words; the facts to support these conclusions are in a conveniently condensed form.

Ward received some contemporary appreciation. He was a friend and correspondent of Herbert Spencer, Ernst Haeckel, and other leaders in the world of thought. He was the first president of the American Sociological Society, and was at various times president of the American Philosophical Society, the American Economic Association, the International Geological Congress, and the International Institute of Sociology, as well as the recipient of other distinguished honors in scientific fields. And yet, the world was, and largely is, ignorant of the depth and importance of his findings —excepting always the feminist movement and the labor movements, which from the first showed a tendency to give him his due credit.

A noteworthy example of the thinking world's unawareness of his researches and conclusions appears in Sigmund Freud's *Jenseits des Lustprinzips* (1920, translated as *Beyond the Pleasure Principle,* in 1922). Seeking to find some original instinct underlying the omnipresent pleasure-pain principle, Freud arrived deviously at this definition of instinct:

"An instinct is a tendency, innate in living organic matter, impelling it toward the reinstatement of an earlier condition."

All organic instincts then, he says, are conservative, and are directed toward reinstatement of an earlier condition. The final goal of all striving would then be a return to the ancient starting point, which is lifeless-

ness: the goal of life is death. Freud was able to fit all the instincts into this hypothesis, except the sexual ones. He words his problem:

"*Of what important* happening, then, in the process of the living substance, is sexual reproduction, or its forerunner, the copulation of two individual protozoa, the repetition?"

He admits that he does not know the answer; saying that the lay mind quails, and even specialists have not been able to solve, the origin of sexual propagation, and the source of the sexual instincts.

This could only have been written in a blank unawareness of Lester Ward's description of the procession of the sexes. Sexual mating originated, at about the stage of the barnacles, by the female's developing separate males on her own body, from which she selected her mate or mates. When it is realized that sexual union thus originated in the mating of the mother with her offspring-husband, and this is compared with Freud's emphasis on the mother-son relationship, the Oedipus complex, the omitted importance of Ward in the Freudian system, as a scientific buttress for the psychoanalytic structure, is easily seen.

The reason for this temporary obliviousness to Ward's theories and findings is complex. First of all, he wrote with an involved polysyllabic vocabulary, which made his work, in the main, unintelligible to the lay mind, and discouraged even the scientists. Secondly, American science, in the past, only slowly penetrated European thought since until recently the American mind has been regarded as a provincial adjunct of European thought. There has been no impressive attempt even at a rebuttal or denial of Ward's thinking; and, without

credit being given to him, it has recently showed a tendency to become an accepted postulate of scientific thought. It is time that the ideas of the great thinker be made available to every mind; and that his own name, as first discoverer of a continent of important thought, be placed beside Darwin's, Freud's and Einstein's, as—

"one of the few, the immortal names
That were not born to die."

CLEMENT WOOD.

New York City

THE SOCIOLOGY OF LESTER F. WARD

CHAPTER I

DYNAMIC SOCIOLOGY

SOCIOLOGY AMONG THE SCIENCES. In the preface to the first edition of *Dynamic Sociology*, Ward points out the following as his five major generalizations, relatively original with him:

(1) The law of aggregation, as distinguished from that of evolution proper.
(2) The theory of the social forces, and the fundamental antithesis which they imply between feeling and function.
(3) The contrast between these true social forces and the shaping influence of the intellect, which embodies an indirect method of striving instead of a direct.
(4) The superiority of artificial, or purposive, processes, over natural processes.
(5) The recognition and demonstration of the paramount necessity for the equal and universal distribution of the extant knowledge of the world.

This last Ward saw as the crowning point of his whole system—the necessity for universal education, as the one clear, overshadowing, and immediate social duty to which all others are subordinate. It is to be doubted if the mind of man has yet invented a more comprehensive and promising program for social betterment.

Sociology, or the science of living beings in their group relationships, insofar as it can be said to have had

a definite origin, was founded by Auguste Comte, who first made use of the term in his *Cours de Philosophie Positive,* vol. iv, p. 185, (3rd edition, 1838). The conceptions upon which the science rests, however, are much older, Comte himself ascribing their first utterance to Montesquieu and Condorcet. The essential element in the idea of a social science is the recognition of the regularity and uniformity of social phenomena. Statistics have established this as to most group phenomena; modern scientists accept it as applying to all.

Since science includes the classification of all knowledge, the classification of the sciences themselves is important. Ward improves upon the tentative attempts of Comte and Spencer in this direction, and arrives at this order:

(1) Astronomy.
(2) Physics.
(3) Chemistry.
(4) Biology.
(5) Psychology.
(6) Sociology.

To justify the emphasis upon this, Ward indicates two unanimous conclusions of the leading scientists of his day:

(1) A belief in the universality of causation.
(2) The improvement of the human race upon this planet as the ultimate aim for human effort.

The first of these is more doubtful today; the second is largely held unnecessary as a scientific end, which, more properly, according to many thinkers, is the understanding of phenomena. In any case, sociology, as

Comte pointed out, must occupy the final place in any logical or evolutionary scale of the sciences.

At the very inception of his work, Ward utters a generalization from which the most advanced modern psychologist would not differ:

> "The motive of all action is feeling. All great movements in history are preceded and accompanied by strong feeling. And it is those persons whose feelings have been most violent that have exerted the greatest influence upon the tone and character of society."

The condemnation and death of Socrates, the Niagara of anti-Darwinism, indicated the treatment that feeling accords to purely intellectual attitudes. Nothing but a counter-current of vaster feeling can alter man's rejection of these intellectual leaders into an acceptance of them.

Intellectual systems for the improvement of society have never had the influence that moral and religious systems have had. These, which have failed in the past, and offer small hope for the future, are furnished with two primary inducements (1) an increase of enjoyment, based upon egoism; and (2) a diminution of suffering, based upon altruism. Egoism demands for the self an increase of enjoyment and a diminution of discomfort; altruism demands these results for others. These two are in essence one, since altruism is only an indirect form of egoism in which the motive is sympathy—a higher and nobler, though a far less powerful, sentiment than egoism proper. Such true progress as has taken place in society has come from the side of intellect, and not of feeling; and yet it has been natural progress, due to the control of external nature, and not under the control of man's own mind. It is natural selection that

has created intellect; but this intellect has never been given the reins of control over man's own progress. Man has improved plants and animals and his inanimate environment; he has made better wheat and better hogs; but he has not yet applied this intellect to the creation of better men.

The intellect is never a propelling force; it can be at best only a guiding force. Man's inventions and discoveries so far have arisen out of the propelling forces of hunger and want. The directive force must be the intellect plus facts; in other words, knowledge. The first element of a truly progressive system is popular scientific education. What we need is a man-purposed progress. The leading thinkers of today are steadily moving away from all conceptions of a god-purpose in nature, and toward an explanation of all phenomena on strictly evolutionary or mechanical principles. Man is the first and the only real purposive agent found in reality. It was man's own purposive actions which caused him to ascribe purpose to deity.

Legislation is nothing else than social invention—an effort so to control the forces of a state as to secure the greatest benefits to its people. Before progressive legislation can become a success, every legislature must become, as it were, a polytechnic school, and every legislator a master of sociology. Inventions, including legislation, have grown from a utilization of *impelling* forces, into a conquest of *attracting* forces. *Compulsory* legislation, the expression of brute governmental force, tends to give way to *attractive* legislation, in which rewards are promised for the performance of acts which the state thinks beneficial. A so-called human "law" is at best only a *regulation*, an attempt to control and modify the results of the real *laws* which exist

in society. The degree of social progress depends on the degree to which the natural play of the social forces is unimpeded and unrestricted. The normal tendency of *compulsory* legislation is to restrict the natural social forces, and to cause social stagnation. The degree of possible social progress, once the social forces are scientifically studied and encouraged by legislation, simply bewilders the mind.

Science may be defined as an explanation of the phenomena of the universe as presented to the senses. All phenomena need explanation, most of them presenting themselves to the senses and the mind as illusions masking their true nature. Sense-impression itself, the appearance of the sun's revolution around the earth, of the earth's gravitational support, of its spherical shape, the great antiquity of the human race and of the earth, all these need explanation. Far more do such deeper matters as the fact that organic and inorganic nature are one, and the fact that the human will is not at all free.

Social progress may be divided into *passive,* or *negative,* progress, in which the natural social forces operate in their natural freedom, subject only to the laws of evolution in general; and *active,* or *positive,* progress, in which a force external to and distinct from the natural forces is applied to them. The chief quality of this new force is *purpose,* which emanates only from man. That potent social theory which calls itself the *laissez faire* school, or the "let-alone" policy, would confine progress to passive, or negative, progress.

"No progress is real," says Ward, "that does not constantly show a reduction of the aggregate suffering or an increase of the aggregate enjoyment throughout society." No means thus far adopted, he concludes, has ever yet accomplished this. The practical task of

sociology is, reduced to its simplest terms, the *organization of feeling:* the regulated satisfaction of that reservoir of feeling which constitutes the human body.

The progress toward which dynamic sociology points is an artificial, purposive progress, as distinguished from a natural, evolutionary progress. While the fine arts may aim toward imitating nature, and may sometimes surpass it, the practical arts progress only by departing from nature's methods. Useful art is a departure from nature, and an improvement upon it. All progress consists in *adaptation.* But this adaptation is of two kinds: passive, and active. The former represents natural progress, as exhibited in a growth; the latter, artificial progress, as shown in a manufacture. The first comes from the innate tendency toward growth of matter; the second, from a purpose.

Natural progress, first of all, involves enormous waste. In natural progress, to use an example from physics, the means must be close to the end, and is applied directly to it, without the leverage by which results apparently become disproportionate to their causes. As organization progresses, the growth method gives way to the purposive method; the means moves further and further from the end; and the amount of purchase or leverage is correspondingly increased. Mind excels matter, as an agent of change, not by virtue of its greater strength, but by its peculiar ability to apply itself to the long end of the lever, thus gaining an immense advantage over all the counter-forces of inertia and resistance that must be overcome.

In the perpetuation of life, for example, there is an appalling waste of life-germs. Cities grow up haphazardly, and constantly require expensive readjustments to meet conditions which a little foresight might have

provided for from the start. The pioneer settlement of a country always shows the same lack of foresight.

Social science suffers, more than any of the other sciences, from the fact that attempts to go back to fundamental principles are decried, by the inert and morbid attitude of the majority of the civilized world, as immoral and shocking. There is scarcely an important principle of sociology which has not shocked the sense of the age, and been condemned as an attack upon the existing order. Thus is social progress thwarted at every step. Society's various institutions are hedged about with a sanctity, a sense of taboo or "don't touch," which it would be sacrilege to invade.

Again, all labor performed in the interest of progress is unremunerative. The utterance of progressive ideas is not paid for; it is not even welcomed. The employments that bring financial return are all non-progressive. The financial rewards go to the merchants and other non-producing professions, and to those who labor for the maintenance of the existing status, such as lawyers, judges, and officers of government. The three classes who have made all the contributions to the world's advancement, says Ward, have been forced to make this as an unpaid "labor of love." These three classes are the mechanical inventor, the scientific discoverer, and the philosophic thinker. In spite of the rewards garnered by some inventors, the typical member of the class has lived in penury and died in poverty, while he has seen the products of his brainwork stolen to enrich some human leech. The scientific discoverers, as a rule, have had the same fate, unless they have been armed in advance with means and leisure, a fact which goes far to deny the comforting untruth of the claim that great success is most likely to come from hardship and oppo-

sition. The great thinkers of the world have shared about equally these two conditions.

There seems no help for this state of affairs. The reformer ploughs a new field. His principles are often unsound, and almost always mistrusted. Success is the only commodity that man pays for; and the reformer's success is usually placed, not in the present, but in the uncertain future. In modern society, not only does the worthless command the pay, but the truly valuable is often kept systematically out of view. Those least meriting it, most desire man's applause. The really meritorious person shrinks from notoriety, and scorns applause not rendered strictly for merit. And merit is rarely sufficiently appreciated to secure its own public mention.

Lastly, human progress is defeated by man's ignorance of his own interests. The intended beneficiaries of any reform often most bitterly oppose it. The slave vehemently clings to his chains; the ignorant hug their ignorance to their bosoms. This has been the record of natural progress; for purposive progress has not yet commenced.

"Until it does [begin], society is as liable to succumb to an adverse wave of reaction, and suffer extinction, as is any race or species of animals or plants; and we know that this is constantly occurring."

It is the task of dynamic sociology to overcome these bars to progress.

Ward proceeds from this high peak to a close examination of the philosophic systems of Comte and Spencer, both of whom base their attitudes upon the absolute unity of nature and its laws in all their manifestations—the grand *monistic* conception, the final crown of

thought, which rounds out at least the outlines of philosophy into a form admissible of no further improvement. This clearing away of the errors in existing systems of philosophical and sociological thought was necessary, in order for Ward to go ahead. We are not as interested in his analysis of the errors of others, however, as in his own system.

PRIMARY AGGREGATION: MATTER BELOW THE LIFE STAGE. True scientific progress tends constantly to increase the number of known facts, and to reduce the number of fundamental concepts. In accordance with the principle of parsimony, today's scientific thinking has narrowed the basis of the universe down to three basic elements which may be called *matter, motion* and *energy*. Movements, which promise success, are on foot to reduce these three to one. The dynamists seek to reduce all reality to energy; the materialists, to matter. Each theory is a legitimate attempt to enlarge our conception of the universe, by eliminating unnecessary factors.

The progress of physical science from the first has tended steadily toward the recognition of the *reality of matter*. Ward accepts the materialist hypothesis, as appearing to bear the strongest marks of inherent truth. Energy is accounted for as a *relation* of matter; and so is motion. The two primary relations of matter are co-existence and sequence. Beside matter itself, only the relations of matter can be conceived to exist. Motion, or the changes of the position of the parts of matter in space, is matter's most important relation. This always occupies time. From the spatial standpoint, such changes are regarded as co-existence; from the temporal, as sequence. These two categories embrace all possible phenomena.

At the bottom of all philosophy Ward sees two questions: (1) what is to be understood by the term matter? and, (2) what is to be understood by the term relation?

Matter, he says, is what it seems to be. Matter is indefinable. It is the final limit in the definition of everything else. All definitions involve the use of terms involving the notion of matter. Yet something may be said of the ultimate constitution of matter. The most successful experiments in molecular physics have been those which have been based on the assumption that the so-called molecular forces were nothing other than manifestations of ordinary matter in extremely minute particles, acting in relation to each other and to other objects. As to whether there is any limit to the divisibility of material molecules, science simply confesses its ignorance. Philosophy can go further, and postulate a unit of indivisible matter, with the sole qualification that this must be larger than zero.

Yet the constitution of the mind is such, that it can never conceive of a limit to the smallness of matter. No more can it conceive of a time for the beginning of matter. Beyond each of these, it can imagine smaller units, an earlier time of origin. In the same way, no limit can be set to space. Whatever is true of matter is also true of its relations. Matter is recognizable only by means of these relations; although they are in themselves nothing. The relations of matter are its properties. Matter without relations would be matter without properties; and this is practically inconceivable.

But what, then, is force? It may be expressed as pressure; or, more clearly, *impact*. Such phenomena as light and heat indicate that matter, in a primary or unaggregated state, pervades all space. Gravitation

similarly seems to call for the presence of some universal material substance. If it is ever explained, it will probably be by some law of mechanical impact. Force may be defined as molecular impact: the effect which matter in its motion through space exerts upon other matter with which it comes in contact. Thus everything which is not matter is some relation between separate parts of matter. Matter is the only reality.

The motions of matter fall under two general classes: those which tend to unite, the *gravitant;* and those which tend to separate the particles or atoms, the *radiant.* Commencing with matter assumed to exist in a wholly unaggregated and undiffering state, but endowed with indestructible motions, the necessary result must be that in certain parts of space certain kinds and degrees of aggregation of matter will take place. This would cause the existence of many kinds of matter, instead of one kind. Matter existing in an undiffering state is unstable; in any space, this would alter into a many-kindedness of matter, a state of greater or less aggregation. The special study of material philosophy, therefore, is the aggregates of matter.

There is, logically, no practical limit to the possible variety and multiplicity of the forms of these aggregations. But the aggregating force is constantly in conflict with the disintegrating force. Continuing aggregates would be arrived at by a process of *selection,* those only resisting immediate disintegration which possess something special in their natures that fits them to resist the scattering process. The law of the "survival of the fittest" must be recalled, from secondary aggregations—the life forms—to explain the possibility of the formation of primary aggregates, or molecules.

The process of aggregation, it may be safely assumed,

consisted from the first in a compounding of aggregates previously formed. Aggregates qualifying under the law of selection would in turn become units of aggregation for higher steps in the process. This would give rise to successive orders of aggregation. Chemistry especially illustrates many compounds into which, not elemental molecules, but combinations of molecules, go to form the higher compound. Sulphuric acid (H_2SO_4), for example, is composed of two equivalents of hydroxyl (HO) and of theionyl (SO_2), constituents which remain intact, as compounds, when they go to form the higher aggregation.

The present conception of a molecule disproves the idea of permanent contact among the atoms, and regards it rather as a system of atoms—the atom being the supposed elementary unit of chemistry. No matter how much further the mind may divide the atom, the same principle would apply. The nature of a molecule is not different from that of a chemical atom, and this again is only that of any aggregate whatever.

The lowest aggregates which have been studied in their free state are the so-called chemical *elements.* These appeal, directly or indirectly, to our senses, and this causes us to recognize their existence. Although they may ultimately be decomposed, for practical purposes we may start with them, as aggregates of a comparatively high order and stable organization. By the aid of the telescope and the spectroscope, we find the various starry bodies composed of a small number of these elements. From this point Ward leads on to a general ratification of the Nebular Hypothesis. The aggregates entering into the ultimate formations of suns and worlds are molecular aggregates combined into masses of similar molecules, or molar aggregates. The

solar system, including the earth, has developed according to this theory. The sun is still in the period of primary aggregation, or lifelessness; in Jupiter and Saturn this period is drawing to its close. In the earth, and perhaps also in Mars and Venus, this period has passed by, or nearly so, and has been succeeded by what may be called the life period. So much for the primary question of philosophy, What is matter?

As to the second question, What are relations? Chemistry especially gives ample testimony, in its higher compounds, that these are merely varied manifestations of matter. Matter is the only reality.

SECONDARY AGGREGATION: LIVING MATTER. Life phenomena exhibit three definite stages: life; mind; man. In the original state of intense heat, the formation of composite substances was impossible. As the heat diminished, more and more unstable substances were formed Long after the oxides, acids, alkalies, salts, and metallic compounds were formed, the heat diminished so that carbonic acid and, later water, were formed; and, still later, many unstable compounds, chiefly composed of oxygen, nitrogen, hydrogen, and carbon—substances which we call organic or life compounds. These were formed by nature directly out of the lifeless compounds.

The transition from the lifeless to the life period is purely nominal; the existence of any definite line marking off one of these fields from the other has long been denied. If there were any advantage in such a line, perhaps it could best be drawn in the place where carbon unites with hydrogen or nitrogen, either with or without oxygen. The lifeless compound closest to the life series would be carbonic acid, of whose lifeless origin there can be no doubt. Among the important organic compounds are the so-called organic bases and the

albuminoids, whose base is a substance, perhaps purely theoretical, called protein. Even the albuminoids are incapable of any visible automatic movement; and yet their molecular activity is so extensive and varied, compared to ordinary lifeless bodies, that it might be called molar by comparison.

For the origin of life, a more complex aggregation of the albuminoids is necessary, growing naturally out of them. There is a generic resemblance among the substances of which all living cells are composed; these substances are grouped under the term protoplasm.

In certain low protoplasmic forms, when the maximum bulk is attained by aggregation, dissolution takes place; in others, division into two bodies, which in turn grow and divide. This new form of nutrition is called *reproduction.* Among higher forms of this reproduction are budding, and a form in which the entire individual resolves itself into a number of minute individuals. In this instance, the parent is sacrificed in the birth of the children; and, out of this, the reproduction of higher organisms has developed, by which a few germs are specialized for the purpose and expelled from the body of the parent without injury to her. This process is known as virgin birth.

Sexual differentiation is independent of the primary principle of reproduction. It will be arrived at later. In the structural development of higher forms of life, the cell-wall ultimately becomes double; each of these walls doubles; and this gives us the four layers that constitute the tissues of higher animals: (1) the skin layer; (2) the muscular layer; (3) the vascular layer; and (4) the mucous layer. Vegetable forms develop more simply, but similarly, utilizing a form of proto-

plasmic activity called *chlorophyl* as the framework of organization.

From a logical standpoint, living organisms may be divided into:

A. Those organisms capable of assimilating chemical or inorganic matter as the frame-work of their tissues.
   (1) Those which manufacture protoplasm only—as, the plasson bodies, and all strictly one-celled animals.
   (2) Those which manufacture protoplasm, and also some form of protective shield or shell, as the Diatoms.
   (3) All organisms which can decompose carbonic acid and employ its carbon to strengthen their tissues. These are true plants, and always contain chlorophyl.

B. Organisms which depend upon the appropriation of manufactured tissue, or parasites.
   (1) Fungi, lichens, etc., fixed like plants, and of low organization.
   (2) True parasitic plants, degenerated from chlorophyl-bearing plants.
   (3) Animals proper.

The third groups of each division alone attain to a high form of organization, and are ordinarily called *plants* and *animals*.

Among the properties of protoplasm is that of being able to contract and extend its mass, due to the influence of its touching environment. This phenomenon has been named *irritability*. This implies the property that we call *sensibility*. The simple motion of the molecules, which produces the change of form called irritability, is exclusively a life phenomenon, and constitutes in the last analysis the sole fact in the idea of *life*. But this is also the point at which the phenomena of *mind* take their origin; and at this point biology (the science of living matter) and psychology (the science of mind)

diverge. In the abstract sense, life and mind are two sides or phases of one common truth, the molecular change in the higher aggregates of matter.

Sensation is the conscious susceptibility of a substance to the impressions made upon it by other substances brought into contact with itself. The real problem is—how is matter rendered conscious? Consciousness must be assumed to inhere in every molecule of protoplasm to a limited degree; in certain shaped masses, it becomes so intensified as to be inferable from the actions of the substance. Irritability is the effect expressed in terms of movement, which we perceive; sensibility is the effect expressed in terms of the organism's awareness, which we infer from our own constitution.

Nerves are mechanisms for the organization of the properties of protoplasm. Protoplasm is not only "the physical basis of life"; it is also the physical basis of mind. It constitutes the nerves. All else connected with them is apparatus. The lowest organisms are all nerves. As the organization progresses upward in complexity, specialized nerve-centers are connected by nerve-trunks; when one of these assumes control over the rest, it is called the *brain.* The cerebral lobes, new and superadded structures, designed to increase the power of co-ordinating the impressions or states of consciousness of the sensory center, produce what is understood by the term *thought.* Thought may be defined as the comparison of experiences and remembrances, which in themselves are no more than revived experiences.

The act of becoming conscious of the contact of an object is properly called *sensation;* the act of recognizing the object is called *perception.* Perception is the root of the idea of knowledge. In recognizing the properties of an object, the nervous system, no matter

how simple it may be, *knows* the object. The power of cognition, or the capacity to acquire knowledge of objects, is the essential quality of *intellect*. Its power in man is only an amplification of the power or capacity residing in the lowest organized beings. The process of bringing together an actual or present impression with a recalled experience is called *thinking*, and the object of all thought is truth. In short, the thinking process is one of *representation*.

Sensation and feeling are really one and the same thing. Sensations which are *indifferent*, that is, not connected with agreeableness or disagreeableness, give us knowledge of the properties of objects. The sensations which give rise to pain and pleasure are the original sources of the *emotions*. The former aid in perfecting perception; the latter, which aid in maintaining the operations of the organism, in preserving life, and in perpetuating the species, have been given by nature the property of pleasurableness. Only in the two most important functions, alimentation and propagation, does the pleasure become extreme; the supreme necessity for the performance of these is the reason for their intensity.

The one thing common to all emotions, properly considered, is the sentiment of *desire*. As life rises in complexity, desires conflict. The *social instinct*, an outgrowth of those emotions which tend to preserve life and perpetuate the race, has grown out of the economic laws of adaptation. Out of the conflict between this social instinct and the selfish desires of an individual has grown the so-called "social compact," due to a recognition of the benefits such a social group will give, in compensation to the individual for the postponement or denial of his individual desires. The moral instinct has grown out

of the same causes, and is practically identical with the social instinct.

Social and moral desires are founded upon: (1) *affection,* arising out of family instincts; (2) *reason,* the rational belief that coöperation is more beneficial; and (3) *sympathy,* the painful sensation in highly nervous organizations at the sight of suffering in others. Each is clearly egoistic. These are called the higher sentiments or impulses. The mental phenomenon called *will* is manifested always when two antagonistic motives are struggling for mastery in the same individual at the same time; that is, when only one of two actions can be performed, and a desire exists to perform them both. The will means simply that one of the desires prevails over the other, and the action is performed at the command of the conquering impulse or desire.

The series of psychic effects is this:

(1) A sensation, when the properties of an object in contact with the subject become known to the subject.
(2) A perception, when the sensation makes the properties of the object cognized or known to the subject.
(3) An impression, the bodily molecular change in the nerve-substance of the subject.
(4) A conception, the psychic state by which impressions, similar but not identical, are recognized as such, and thus logically grouped.

Memory is nothing but the fact that impressions once recognized possess a greater or less degree of permanence. *Reason* is the intellectual power which exerts itself, in the co-ordination of perceptions, conceptions, ideas, and all the psychological units. Simple, direct, or intuitive reasoning is called *judgment;* compound or indirect reasoning is called *ratiocination* or reasoning.

Intellect is the mere mental capacity; intelligence is this, plus all registered experiences. It is intellect plus knowledge. It varies with the amount of education. Whatever increases intelligence, as an increase of knowledge, will also increase intellect; for an organ is strengthened by use. At every point, science points to education as the great lever of human advancement.

High in the ascending scale of backboned mammals we find the apes, and man. The highest apes and the lowest men approach each other to a remarkable degree. The growth of the human embryo passes up through the ascending scale of life, and includes, just before man is reached, a stage of apehood. Science has established the single origin of all the races of men. At some stage of ape progress some one group of the ape family acquired certain of the characteristics which distinguish the human from the ape family. These include an increased capacity of the cranium, an erect posture of the body, certain differences in the feet, shorter arms in proportion to the trunk, a comparative absence of hair from most of the body and limbs, and a double curvature of the spine. These grow naturally out of the tendency of all organs to vary constantly. A need to protect themselves from animal enemies, once they became ground-dwellers instead of tree-dwellers, and the need to make up for the loss of foods obtainable more easily by tree-dwellers, would cause the increase of cunning, which meant an increase proportionately of brain mass. Increased brain mass would tend to cause the erect posture, as a heavier brain could be better supported by the entire body than by the neck alone. The fore-limbs would then be modified to suit the altered needs. The human voice, and language, grow naturally

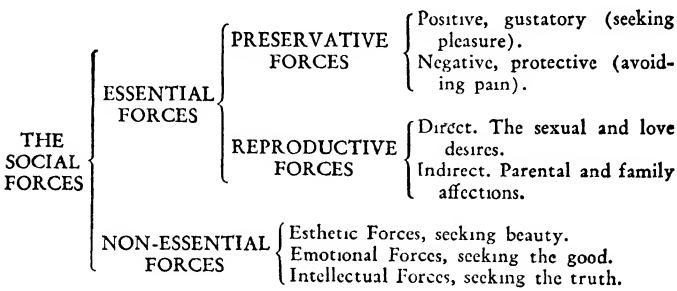
out of their rudimentary form in the sounds uttered by animals.

TERTIARY AGGREGATION: SOCIETY AND SOCIAL RELATIONS. The development of societies is merely a continuation of the process of aggregation. The essential prerequisite of all true social union is a sufficient brain development to perceive, however dimly, the advantages of association. Society, in its literal or primary sense, is simply an association of individuals. It is probable that man was not originally social by nature. While he was not wholly a flesh-eating animal, there are evidences that the ancestors of man once possessed tusks or canine teeth clearly designed as weapons of attack.

The development of human society has passed through four stages: (1) A solitary animal, or one living in small groups. (2) The multiplication of individuals and comparative safety from external dangers rendered the accumulation of individuals in certain localities a physical necessity. This made an uncongenial and forced association, with the utmost liberty and the utmost license. (3) The establishment of the first rudimentary elements of government, based upon the necessity for some form of regulation, at first chiefly of the sexual relations, and later of the rude proprietary interests that began to arise. This stage grew into tribes and nations, into larger and larger aggregations, which warred upon one another. (4) "Government, so necessary for the prevention of internal war, became the cause of external war, yet the latter was undoubtedly the lesser of the two evils, and will itself disappear, in turn, when all governments shall be consolidated into one. This event, if realized, will form the fourth stage of social progress." The four stages, then, are the self-ruling, the enforced

aggregate or anarchic stage, the national stage, and, lastly, the single government of all men.

When we come to an analysis and classification of the social forces, we find the following a complete and logical classification:



The first and greatest of the motives to human action are the preservative forces. These first manifested themselves definitely when there occurred the recognition of property. Property, first vaguely regarded as belonging to the group, even among the lower races began to develop as ownership by the individual. Two painful bodily states, which may be grouped under the terms *hunger* and *cold,* the first positive, the second negative, may be grouped together as *want.* Man's actions in satisfying these desires were based upon *feeling,* and not upon *function.*

Mind cannot satisfy these desires, without bodily labor. Whenever in later times it has secured subsistence for many bodies without labor, it is always true that, for every idle body, there has been one doubly taxed. Man developed through a hunting stage; a pastoral or flock-raising stage; and into an agricultural, or crop-raising stage. The hunting stage sharpened and strengthened

the body; the pastoral stage encouraged revery and imagination; the farming stage stimulated energy and thought, and did not dull the feelings. Each stage was an advance upon the spontaneous methods pursued by animals; each required an exercise of genius, a certain amount of calculation and invention.

The objects whose source can become a proper subject of ownership must be the results of some amount of labor; they must be products of human skill. The milk, flesh, and skins of domesticated animals, the fruits of the earth, are the best exemplifications of this. Thus flocks and the soil could become possessions. This recognition of permanent property provided man with an object to pursue, an incentive to industry beyond the immediate demands of his nature. It substituted a future for a present enjoyment. A thousand new desires sprang up, as the new and varied objects of skill and labor multiplied. Raw food was no longer endurable; it had to be prepared into delicate dishes. Houses and garments were improved and became more complicated.

In the end, property came to be recognized as the measure of human happiness. The pursuit of wealth was recognized as the pursuit of happiness. This pursuit bred strife; and avarice, a wholly derivative sentiment, grew to be one of the ruling passions. The idea of permanent possession not only contributed to man's self-preservation; it aroused his faculties, and gave him intelligence. The conception of permanent possession gave to civilization its first impulse.

The sole human effort was *to acquire,* with no such consideration as justice entering into the desire. With the possible exceptions of air and some water, all the wealth in civilized countries is the result of production. In addition to the class who labored to produce wealth,

a class grew up who spent their energies in appropriating the product of other men's labor. They held that their business was, to them, as honorable and useful as that of the producers.

The normal form of intellectual action is deception. It is a deception to catch and domesticate an animal; it is a sort of deception to wrest a surplus product from the soil. Sagacity, cunning, genius, all necessarily imply deception. It may indeed be said that invention is deception. The law of nature is the "right of might." Natural justice is merely the law of force. Certain forces caused a transition from this natural justice to what may be called civil justice, and grew out of:

(1) Increase in the susceptibility to sympathy.
(2) Increase in the capacity for foretelling effects.
(3) Decrease of the power to perform desired acts.

The moral progress of the world is more apparent than real, especially as regards respect for proprietary rights. Supreme selfishness is presumed in all business transactions; and it is reasonably presumed. To depend upon anything else is to build upon quicksand. The chief effect produced by social regulation in altering the methods of acquisition has been the substitution of cunning for brute force. The law of acquisition is as strong now as ever; the progress made has consisted in softening the harshness of the method. For a blow on the head we have substituted a polite highwayman, operating legally.

"Throughout the world the tendency of civilization is 'to make the poor poorer and the rich richer'."

In matters of government, an unrepresented class is always deprived of its rights.

"The first step toward taking away liberty or life is to take away property. It is but a step from penury to slavery. Who shall calculate how large a part of all human suffering is due to poverty?"

The poorest people in the world are, if not the most enterprising and energetic, at least the most industrious and laborious. We find that the greater part of this inequality of wealth is due to—

"Mere accident, as devoid of mental or moral character as are the inequalities of the earth's surface; due to some bare chance, some physical fatality, some accidental coincidence, some ancient social convulsion, some act of remote ancestors, or some vice or virtue of parents."

Food replaces the natural waste of the body; medicine repairs unnatural derangements. And all substances which are not foods may be called poisons. Man's food comes from the inorganic, the vegetable, and the animal kingdoms. The labor required to obtain it has been called primary production. Secondary production is used to produce clothing, the means of shelter, and the implements, utensils, and other devices of production. One of man's first arts was the art of producing fire. Clothing and shelter, for protection from the weather, required a high development of man's inventive faculties.

Even from the beginning, some means of distribution was needed in order to have the products properly reach the potential consumers. Distribution includes transportation, exchange, and all other necessary intermediate negotiations. Long before recorded history, traffic in useful commodities was going on throughout the world, causing man to become familiar with the remoter sec-

tions of his world. There arose finally the merchant class, those in charge of the exchange of goods; and this class began to acquire wealth and princely fortunes most readily. In complex societies, this class diverts from the stream of production an abnormally large number of potential producers. Finance, or the manipulation of the medium of exchange, became a successful industry when it became a means of acquisition by, among other things, the invention of interest. These unproductive by-products of production have overbalanced production.

"The combinations, coöperations, and monopolies already established by shrewd distributors of wealth have become so extensive and complicated, that it may require a general social revolution to overthrow them."

They have absorbed the most acute minds in the world; they have maintained and spread their grasp by every available form of deception, misrepresentation, and strategy, all within the sphere of natural law. Worse than the tendency to bloat the importance of these non-productive industries is the tendency to depreciate production itself.

"Coöperation is as easy for the producers as for the non-producers; but they do not understand it as well; and, if they understood it, they would lack the intelligence to carry it into practical effect."

Worse than the purely non-producing class is the non-industrial class, the parasites. The six chief methods of parasitism are: (1) robbery; (2) theft; (3) war; (4) statecraft; (5) priestcraft; (6) monopoly.

"Between robbery and monopoly the difference appears very great, but it consists in two things, both of which are quanti-

tative only. These are the rudeness and illegality of the former, as contrasted with the civility and legality of the latter."

Above robbery and theft, war is an ancient method of non-industrial acquisition.

"Not a war can be mentioned . . . which did not have for its avowed object the appropriation of the possessions of those against whom it was waged."

While some part of the work of government, or statecraft, can be classed as industrial, much of it is done for the simple gratification of the caprices of officials in power, who are usually more or less purely parasitic. Most of the labor of the ruling classes, when any labor is performed at all, is purely parasitic. Priestcraft "adds nothing, and aids in adding nothing, to the production of the objects of desire." Insofar as priests are diffusers of knowledge, they are not priests. Not all the doctrines in the world, nor all the prayers, would aid in carrying the community through an ordeal which threatened it with famine or destruction from climatic influences. Religion is the appeal to the sentiment of fear of the unknown; and from prehistoric times the shrewd men have utilized it to enrich their pockets. "The reign of this parasitic hierarchy still continues all over the world; and still, today, the hard labor of the masses . . . is paying its tithes . . ." to support this great non-industrial class, to erect costly tax-free edifices, serving no other purpose than to be opened once a week—"that honors may be paid and anthems sung to imaginary deities." There are monopolies of transportation, of exchange, of finance, and, lastly, of labor. Human slavery is simply a monopoly of labor. Today there also exists the monopoly of capital, "which denies to the true pro-

ducer the products of his labor, pays him meager wages, and derives large profits from the manufacture." The remedy for monopoly is coöperation—an artificial principle, the result of superior intelligence.

"Labor must retain possession of its products, and only transfer them to the consumer, making the processes of distribution wholly dependent upon and subservient to those of production."

So much for the preservative forces. When we come to the reproductive forces, we are confronted at the beginning with the fact that the primitive method, by which woman selected her mate, has been replaced by man's selection. The marriage relationship was at first doubtless limited to a single reproductive act. Woman's passivity soon reduced her to a mere possession. After a state of pure promiscuity, marriage by seizure and forcible retention of the wife came into being. Polygamy, or one husband with many wives (more properly, polygyny), resulted from the successful effort of man to obtain the gratification demanded by his sexual nature. Polyandry, or one wife with several husbands, is far rarer, and arose, in part, from unusual industrial conditions, as in Tibet and Cashmere, where men are chiefly occupied in herding flocks at a great distance from their homes. It exists in civilized societies in a modified form, that of prostitution.

"Whatever must be done secretly and clandestinely will be done improperly and become an evil, though it possess no intrinsically evil elements."

Society declines to recognize the laws of nature, one of which is that by which the sexes seek each other. This

cannot be checked by human regulation. For a number of reasons, society is constantly filled with men and women who have no legal access to each other; hence men seek illegal access to women. As in trade, demand will create a supply. Since woman is wholly dependent upon man for the means of subsistence, she will barter her virtue for a livelihood.

"For life is dearer than virtue, and there is often more true virtue in this surrender of virtue than there would be in preserving it."

Monogamy, the union of one man with one woman, is the remaining method. Incomplete and inadequate as it is, says Ward, it is a superior method to polygyny or polyandry.

Fear of attack and interruption growing out of primitive man's marriage by capture, making necessary the stealing away to some isolated spot to consummate the sexual act, is at the root of *modesty*. But this proprietary protection was only the foundation. Other elements soon entered into it, imparting to it its present peculiar character.

The subjection of women by the male sex has produced marked inequalities in the relationship of the sexes. The attire of women tends toward embellishment; that of men, toward utility. The health of woman has suffered from the relegation of woman to indoor occupations, while man labors outdoors. Inequalities in education and legal rights weigh heavily on woman, also. This inequality is detrimental to both sexes; and sociology welcomes the incipient movement toward an equality of the sexes.

Among the non-essential social forces, there are the

esthetic forces, those seeking beauty, including those which appeal to the eye, such as sculpture, painting, landscape-gardening, and architecture, and those which appeal to the ear, as music. Both form reliable social forces, and have contributed to social progress.

The moral forces may be divided into the *love-forces* and the *fear-forces*. Parental love is especially strong in the female, and is the great bond of the family. Love of one's kindred grows out of the family bond, and is an artificial sentiment. These two sentiments expand into patriotism, spreading from love of the clan or tribe to love of the state. Philanthropy is the next higher step—that sentiment which includes all mankind in its love. Self-love is the last, perhaps, and greatest among these sentiments. When it looks to the future, it takes the form of ambition; and this has been very potent in the development of society.

The physical fear-forces are the lowest in the fear-group. Fear of man, fear of animals, fear of inanimate nature, have all played their part. The fear of spiritual beings is a last consequence of the tendency to personify natural objects. Fear of disease, while less apparent in its outward character, has had, nevertheless, a no less profound effect. It produced, at first, a group, which preyed upon the superstitions of mankind, which finally gave way to intelligent experts upon the subject.

The psychical fear-forces are the fears men entertain concerning their supposed immaterial part, the soul. These are all of a religious nature. Not all religions contained the doctrine of immortality; it was Jesus and Mahomet who made this belief widespread. At the time that Christianity came into being,

"there were indications, that the bonds of religious restraint were about to fall from the people, and the light of knowledge be admitted to all, just as we now see the forms of religion more and more ignored, and education further and further extended. But Christianity rekindled the religious zeal, proscribed philosophy, abolished the schools, and plunged the world into an abyss of darkness from which it only emerged after twelve hundred years."

"Ignorant of what would have happened if this had not happened," says Ward, "nothing is left but to regard the advent of Christianity as a calamity."

The intensity of both the Mohamedan and Christian religion must be attributed to the doctrine of immortality.

"There can be no doubt that this doctrine has exerted an exceedingly pernicious influence upon the progress of thought, of knowledge, of material civilization."

There is little to recommend it, from a moral standpoint. The history of the Christian and Moslem faiths "has been one of dark and bloody deeds, of persistent hostility to all forms of true enlightenment, and to that extent of general injury to human interests." To the credit of the belief in immortality must be placed its believers' hopes and anticipations, these being pleasurable emotions. Though a purely egotistic sentiment of a very low order, still, as a real pleasure, it must not be overlooked. Yet the amount of suffering caused by fear of eternal damnation may overbalance this. If belief in immortality makes men happier, it does not make them wiser or more energetic; "its influence has constantly been to dampen man's ardor for the conquest of physical nature, by which alone all true progress has been accomplished."

Last of all are the intellectual forces. These will be treated in detail later.

ADAPTATION: MAN AND THE UNIVERSE. The task of society is to undertake seriously the artificial improvement of its condition upon scientific principles. Before we enter upon this, let us consider nature's attitude toward man; and man's proper attitude toward nature.

Nature is the whole, of which man is a part. It is, moreover, man's ancestor. It is, lastly, unconscious. It is not intellect, will, or purpose that animates nature, but merely aggregation and adaption.

"Mind is found only at the end of the series, and not at the beginning. It is the distinctive attribute of the creature, and not of the creator. It resides in man, and not in nature."

Man's attitude toward nature should be, first, that of a student; and, second, that of a master. Nature can be studied with full impunity, having neither feeling nor will, neither consciousness nor intelligence. All true progress has been measured by man's growing mastery over Nature. That is why man should assume the attitude of a master, by which is meant the effort to exercise control over the forces of nature.

All systems of thought which try to explain phenomena fall into two general divisions, the *teleological*, or one attributing purpose to nature; and the *genetic*, or one believing in the natural development. The thought of the past has erred in attributing purpose to nature, or to some imagined creator of the universe. Three schools of thought have developed from this teleological doctrine: (1) divine free will, or continuous special interference; (2) predestination, or fore-ordination; and (3) fatalism. All of these are contrary to what science has

learned. The answer to these purposive beliefs might be called necessitarianism. Things are; they must be. That is enough.

Among some of the errors which have cropped up in philosophic thought one of the most absurd has been the idea of the depravity of material objects. Thus, not only the human mind is depraved, but everything natural is bad. Matter has, from time immemorial, been held to be inherently and essentially unholy and impure. Man, his every desire, passion, faculty, and attribute, have been held to be corrupt and unclean. Only recently has this belief begun to lose its strength.

Another error has been the doctrine of optimism, growing out of the belief in an intelligent "Ruler of the Universe." The depravity doctrine grew out of the ideas of the exalted purity of the creator, contrasted with his dependent creatures, thought of as quite different. The doctrine of optimism, "everything is for the best," grew out of a belief in the creator's absolute goodness and ability to arrange things. This optimistic attitude is based either upon wilful blindness or inexcusable ignorance. Life itself offers thousands of instances where any provision "for the best" would have been the contrary of things as we find them. Man's innate lack of correspondence with his environment might be illustrated in a thousand ways. Society's similar lack of correspondence has already been touched upon.

The process of nature is the least economical of all conceivable processes. The reproductive system, for instance, is maintained with wasteful prodigality. To hold its own, the octopus must lay 50,000 eggs. A single sturgeon emits 900,000 and more ova at one spawning. An eel may contain at one time 9,000,000 eggs. A tape-worm was found to hold more than 1,000,-

000,000 ova. One ordinary plant (*Penicillium crustaceum*) was found to contain 3,200,000,000 spores.

There is no peace in nature. Even the vegetation is forever at war. In the animal kingdom the struggle is desperate and unceasing. The waste of reproductive power is enormous, in proportion to the amount of life brought forth; and by far the greater part of the life brought forth meets with premature destruction. Man's progress from savagery into barbarism, and from barbarism into civilization, has been attended with the same wastefulness. Man has been at war with the elements, with wild beasts, with his own kind. The competitive struggles of industry parallel the natural struggles of lower forms for subsistence. The same wasteful methods prevail in society as in the animal and vegetable kingdoms.

Purposive or teleological phenomena appear only where mind is found; and they are the reverse of the natural phenomena below the stage of mind. Purposive actions are consciously produced. They aim at an end, or object, and consist of efforts to obtain these ends. The motive of the effort is to secure a satisfaction of some desire; the direct object of the action can only be an intermediate means to the real end.

All living organisms incessantly strive to secure the satisfaction of these desires. Actions may be classified into those that strive directly, and those that strive indirectly, to attain their end. The former class of efforts constitute true natural forces. These obey the mechanical axioms of physics as established by Newton, and are popularly known as the laws of motion. The intellectual faculty is the element required to make the transition to the indirect method. The intellectual element is not really a force, but a guide or director of

forces. This method, by utilizing nature's forces, permits a great and increasing disproportion between the energy expended and the work accomplished.

The remainder of Ward's *Dynamic Sociology* is devoted chiefly to a discussion of sex terms, for which his definitions are as follows:

A. *Happiness*—Excess of pleasure or enjoyment over pain or discomfort.
B. *Progress*—Success in harmonizing natural phenomena with human advantage.
C. *Dynamic Action*—Employment of the intellectual, inventive, or indirect method of conation (the effort put forth in seeking satisfaction of desires).
D. *Dynamic Opinion*—Correct views of the relations of man to the universe.
E. *Knowledge*—Acquaintance with the environment.
F. *Education*—Universal distribution of extant knowledge.

There are six corresponding theorems of dynamic sociology, each of which will be treated separately:

A. *Happiness* is the ultimate end of conation.
B. *Progress* is the direct means to Happiness; it is, therefore, the first proximate end of conation, or the primary means to the ultimate end.
C. *Dynamic Action* is the direct means to Progress.
D. *Dynamic Opinion* is the direct means to Dynamic Action.
E. *Knowledge* is the direct means to Dynamic Opinion.
F. *Education* is the direct means to Knowledge.

UTILITY: HAPPINESS THE ULTIMATE END OF CONATION. At the basis of every philosophical system involving the interests of men lie the phenomena of *feeling*. For all practical purposes, the vegetable kingdom may be

placed in the insentient or non-feeling class, and the animal kingdom in the sentient or feeling class. Life without feeling is essentially passive; life with feeling is essentially active.

Pleasure and pain are the leading characteristics of all feelings. When the principle of natural adaptation, or selection, is once fairly understood and applied to the phenomena of feeling, they yield readily to its magic touch. The dread of pain is the spur to all those activities which really result in the preservation of life. The pleasure of gratifying desire is the spur which ensures that the nutritive and the reproductive functions will be performed. Feeling is a far higher protection than woody tissues, limey shells, or bony plates.

The point of view from which the above has been reasoned is the objective point of view, and is the standpoint of biology. From the subjective standpoint, the standpoint of the creature feeling, the means of nature becomes the ends of the creature. The creature ignores the ends of nature, and looks no further than the phenomena of the feeling alone. Sentient existence has been made possible and the paramount ends of life accomplished through the simple efforts of the organism to obtain pleasure and avoid pain. All the activities of the organic world have for their sole object the attainment of pleasure, and the avoidance of pain.

The recognition of this truth will involve a complete change of base of all philosophy. What function is to biology, feeling is to sociology. The progress of man can be measured by the elaboration in the satisfaction of the feelings. Nutrition has progressed from a mere bolting of food to the well-prepared, well-served and politely-eaten meals of today. The ritual of sex has broadened from the casual copulation of animals to the complexity

of romantic courtship, love, and family life. The simple love of activity is one of the most powerful of all stimuli, and constitutes one of the most important factors in evolution. The esthetic sentiment, and, in the most highly developed individuals, the pleasures of the intellect are likewise of great importance.

"Happiness consists in the realization of all positive forms of feeling, attended by a more or less complete absence of the negative forms, known as pain. Happiness, in this sense, is the sole end of life, the primary object of existence. . . . To attain happiness is to employ the means whereby Nature works out her ends—preservation, progression. . . . The progress of society must depend on the progress of the intellect, and, while the end of social as of individual being is to minister in the highest possible degree to the feelings, this end can only be accomplished by the most thorough cultivation of the intellect. . . . Human happiness, which is the ideal end of all social effort, can only be secured by the elevation and expansion of the reasoning powers of man, which constitute the indirect but sole effective means by which that end can be attained."

Nature's ends are two—subsistence and procreation. This may be called *cosmical utility*, since it is functional and biological, standing in contrast to *individual utility* which rests on feeling, and is moral, or sociological. Individual utility demands the *enjoyment* of functional activity.

"Happiness is the only object of human effort; . . . utility aims to secure this object alone . . . nothing is useful unless it does so tend."

This is the doctrine known as utilitarianism. Some of the objections raised to this are: first, that it makes man's aim low and undignified. Again, it is said that we should

aim to secure, not happiness, but virtue. This is the popular idea, and has the advantage of plausibility. In considering this argument, the questions arise: What is the necessity for virtue? What good can it accomplish? Of what use is it when secured? It is obvious that the aim of virtue is to make men happier. It is, therefore, simpler and truer to say that man's ultimate object or end is happiness.

Again, it is said that man is placed here for improvement, the object of his existence being his own development and perfectionment. Yet this in turn is only another means to securing greater happiness. Still another doctrine is that the great purpose of life is "the glory of God." Yet God, according to his believers, is already infinite in all things, "glory" included. The moralists who set up "doing right" as the end of men do not essentially differ from those who place virtue, a possible way-station on the road to happiness, as the end of man. In every case, happiness emerges as the real goal.

Any action tending toward happiness is right; any action tending toward pain is wrong. When we see the people of a great city moving in all directions in search of money, love, fame, duty, and the like, all these can be resolved into the one real goal: happiness. The problem of dynamic sociology is *the organization of happiness.*

PROGRESS: THE PRIMARY MEANS TO HAPPINESS. Dynamic sociology consists in applying the indirect method to the control of the social forces. The purpose of this control is the increase in the sum total of human happiness. What modifications must be effected in the social state to secure the required consummation?

This calls for an examination of existing society. It is found to consist of progressive and anti-progressive

elements. The existence of an intellectual force caused the formation of a large number of institutions, or devices for attaining desired ends, some belonging to the one class, and some to the other. The distinction between these is not easy to make. Few realize how great is the susceptibility of man to error, especially in the lower stages of his development. A cunningly devised artificial system may be regarded as a blessing for ages, during which it is really degrading its defenders.

More than half of mankind, if asked what they regarded as the chief civilizing agency, would doubtless unhesitatingly answer, "Religion," each really meaning, "My religion." The second answer would probably be, "Government." Few would be found who adequately valued the truly beneficial agents: language, literature, the mechanical arts, and the exact sciences.

There are those who say that, if progress means the increase of human happiness, it will follow that there has never been any progress at all. This is a short-sighted view. Human progress, consisting in a multiplication, variation, and refinement of the faculties of enjoyment, is a reality.

All the varied initial wants of society, arranged in two great groups, were: (1) communication; (2) subsistence. Human art has advanced on two general lines—one towards securing better means of intercommunication, the other towards securing better means of subsistence. The first of these is the response of the developing intellect to the demands of the mind; the second, its response to the demands of the body.

In the communication group, the first great step that man made was the creation of a language. Language is the product of thought; speech is only the mode by which man expresses language. It grew out of the

growth of ideas, and the desire to express them. Hence it was progressive; that is, it added to the sum total of enjoyment. The next great invention in this class was written language. Last of all, printing was invented, making written language the permanent and easily obtainable possession of the people. Written language has permitted man to keep a record of past events and to avoid obvious errors; providing, at the same time, an independent esthetic enjoyment.

In the subsistence group, progress, up to the last three centuries, has been of a rather uniform character. The cause of the enormous acceleration within the last three hundred years is found to be almost wholly in the application, since the middle of the seventeenth century, of what is known as the Scientific Method to the development of inventive art. The introduction of the scientific method, combined with the invention of printing, made it possible for man to commence reorganizing the civilizing forces of the world.

Civilization is due almost exclusively to the increased proportion of the artificial over the natural objects in contact with man. As a rule, this proportion is the measure of civilization. *Civilization*, then, may be defined as the artificial adjustment of natural objects, in such a manner that the natural forces will thereby produce results advantageous to man. Those who complain that man was happier before civilization confound contentment and happiness. The former results from a lack of desire; the latter from its gratification. The first arises from the absence of pain; the second, from the presence of pleasure. Contentment is, therefore, negative; happiness is positive.

The chief progressive agencies have been language, literature, art, and science. The two chief non-progres-

sive institutions have been government and religion. The very name of government implies its character. It is a system for enforcing obedience to positive laws: implying, of course, a disinclination on the part of the governed to comply with those laws. This curtailment of liberty, of the gratification of desires, constitutes an interruption to happiness.

"Therefore, the whole effect of government, as exerted in this direction, is in this sense opposed to human happiness, and consequently, were there no benefit to offset it, would be opposed to social progress."

There are other objects of government, beyond that of restraining the desires. These are: (1) protection, (2) accommodation, and (3) amelioration, or improvement of society.

The people never seek a government; government always originates itself. Government is an invention of the human mind, the emanation of a single brain or of a few coöperating minds more cunning and shrewd than the rest, intent on securing the gratification of a peculiar passion known as the love of power. It must be recognized, however, that government has been, at the same time, the result of development and social growth. In practice, government has been at once a protector of all the true civilizing agencies, and a barrier to their normal development. Government is fundamentally a necessity; yet it exercises a powerful influence in direct hostility to human progress.

"Incapable from its nature of making society any better, it loses no opportunity to make it worse."

A true government should originate from popular demand, not from the desire of those anxious to govern. Its officials would be regarded, and would regard themselves, as public servants, subject to removal on their failure to perform the service for which they were employed. The people would be consulted on all important matters. Government would be merely the agent of society.

"This is the primary quality of government which is necessary for the existence of society, viz., protection. If this were no longer required, if mankind were grown so wise as to be able to live in peace *in* society, as was once possible *without* society, still there would be need, not of government, but of organization. . . . This too [accommodation] is all that will one day be left of government."

Liberty is merely man's power to act as he desires. The paradise of primitive liberty which man lost through his wisdom, he is now about to regain through his wisdom.

"But the difference will be that the former was the unconscious anarchy of ignorance, while the latter will be the conscious anarchy of intelligence."

When we jail men for infringing the dictates of government, we forget that they are but the victims of untoward circumstances.

"The murderer has but acted out his education. Would you change his conduct, change his education."

In the possible government of the future, "legislator, as a scientific investigator, would set for himself the task

of devising means to render harmless those forces now seen to be working evil results, and to render useful those now running to waste." And, as a prerequisite to this, universal education would be the first step.

Religion is the second anti-progressive element in society. The "minimum definition" of religion is Tylor's, "the belief in Spiritual Beings." According to Sir John Lubbock, "there are races so low in intellectual development as to possess nothing that can be dignified with the name religion." The following are the grades in the conception of a deity, as given by Lubbock: (1) atheism, or an absence of theology; (2) fetichism, or god-compulsion; (3) nature-worship; (4) shamanism or priest-intervention; (5) idolatry; (6) theism, or god as the author of the universe; (7) theism joined with morality. Man's belief in spiritual beings arose from his attempt to explain the phenomena of nature, which, caused by invisible sources of power, led him to assume invisible beings, in other respects like himself, as the causes of natural phenomena, and from such states as dreams, epilepsy, mania, trance, as well as from reflections in the water, shadows, echoes, and death itself. All of these premises are based on facts; but the facts were incorrectly interpreted, due to lack of knowledge. No conclusive proof of immortality has ever been produced. In every sense, religion has acted as an anti-progressive force.

ACTION: DIRECT MEANS TO PROGRESS. The means to progress must consist in some form of action. "Only those of man's actions which have sprung from the intellect have proved progressive; and only that class of intellectually directed actions which are the results of a correct interpretation of phenomena, and consisted in some application of correctly perceived principles of

nature to human needs, have so proved." The primary departments into which actions are divided are those of *voluntary* and *involuntary* actions. Voluntary actions may be divided into two classes: *impulsive* and *deliberative*. Where these desires conflict, we have those internal mental strifes with which man is so familiar.

"Truth is usually on the side of deliberation, when in conflict with impulse. But it does not by any means follow that that side will triumph on which truth resides."

The conquest will go to the strongest desire. The forces within the man make the decision; he does not make it.

As we trace back toward the savage state of man, the impulses are seen to predominate more and more. When we reach the animal stage, all actions are seen to be the result of impulses, generally speaking. For, in certain cases, animals exercise sagacity, which is the same as deliberation. Such impulsive acts as arise from impulses prompted by love, anger, ambition, avarice, have, without good reason, been deprecated by society.

"That the prevailing sentiment of society on the question of the purity of the actions which spring from love is essentially false and injurious is evident from many indications. . . . The steady refusal of the popular pulse to beat in unison with the moral precept may be counted among the most significant of these indices." It is curious to observe to what an extent the moral code is upheld in word, and violated in action. Even the sentiments of anger, ambition, and avarice may produce beneficial results.

When we come to deliberative actions, we find that they are divided into two classes: those possessing moral quality, and those devoid of moral quality. Of the former, it is generally supposed that there is a faculty

in man which makes it possible for him to distinguish right from wrong. In the first place, however, man usually applies this quality to judge only his neighbors, holding himself, as a rule, right, no matter what his action may be. "The only true source of the moral idea is experience." Experience is the moral teacher. No truth is known by intuition—neither physical truth, nor moral truth.

Yet, though conscience may err, is it not universal, acting intuitively? To this also a negative answer must be given. Truth must be learned, before it can be known. The so-called moral sense is only an intellectual judgment of right and wrong. "The surest moral guide, therefore, is a knowledge of the relations which each individual sustains to his fellows, to society, and to the world in general. . . . The real moral education is intellectual education, the education of information." For education so molds the mind as to render the rational desires supreme over the impulsive; and it teaches what right consists in. "The supreme preventive of crime is, of course, general intelligence."

"A recognition of the fundamental law of human nature—the egoistic character of human actions—furnishes the only real argument in favor of democracy. . . . It is not rank, or wealth, or learning that society exists for, but happiness, to which all other things are only means. . . . It will be a long time before the world will recognize the fundamental truth that it is not to apotheosize a few exceptional intellects, but to render the great proletariat comfortable, that true civilization should aim."

Man's gynamic actions or those not possessing a moral quality not only give him dominion over the animal kingdom; they extend his domain over the rest of nature.

They constitute the true progressive element of his nature. Progress lies not in the acquisition of wealth, but in the judicious appropriation and application of wealth.

OPINION: DIRECT MEANS TO PROGRESSIVE ACTION. Both ethical actions and dynamic actions are dominated absolutely by the opinions that prevail in society. The value of human action will depend chiefly upon two qualities residing in human opinions: (1) their correctness; (2) the importance of their subject-matter.

The thing to be sought for is not unanimity of opinion, but correctness of opinion. In making correct opinions universal, we make all opinions on the same subject identical; but this is a mere byproduct of the process.

One great barrier to correct opinion is the undue predominance of subjective influences. The feelings can not determine truth; only the intellect can grasp it. Instead of the wish being father to the thought, "the wish should never have the remotest connection with the thought." Cold calculation is the only reliable guide. Opinions based on desires are as likely to be false as true. The universality of belief is no evidence of its truth; utterly groundless beliefs have clung to the minds of men for centuries in the past, and perhaps ones equally false still so cling. The remedy for this condition must come from an extension of scientific thinking. Politics, law, business, morals, even religion must fall under the scrutiny of science; the logic of fact, evidence, and statistics, must control everything from the weight of a tadpole to the prospect for salvation.

The first step toward correct opinion is for the mind to emerge from holding to groundless faiths, into holding beliefs based upon evidence. Unfortunately, the exclusion of contradictory evidence is often enough to

cause belief. The Catholic Church shrewdly recognizes this, and knows that one way of getting and holding converts is to suppress all evidence contrary to the truth of Catholic teachings.

"Truth consists in the recognition of identity under varying external aspects." It is easy to see that 1 is 1. It is more difficult to see that 1 is 1 plus 3 minus 2 minus 1. But that does not change the truth of the fact that 1 is 1. The more dissimilar the circumstances concealing the identity, the greater the penetration required to detect it. The highest form of mental operation is *generalization*. Here the mind perceives the same quality in various objects, and forms them into a group. It then forms a larger group out of several groups possessing the same quality. "The discovery of truth, that is, of the relations among facts, constitutes the extension of knowledge itself."

Errors are simply cases of mistaken identity.

How shall truth be distinguished from error? The answer is simple: by *verification*. This may be: (1) by the senses, or (2) by the reason. The settlement of conflicting opinions in society only requires an equal distribution of the evidence, the data upon which opinion rests. This is a true civilizing process, and must be artificially fostered and conducted. A statement of fact, once accurately verified, may thereafter be taught as a known truth, without universal verification.

The primary cause of human opinions is the experience of the senses. Touch is a fairly reliable guide; sight less so; hearing most unreliable of all. Oral language is the source of the greatest number of our opinions, whether true or false. That is the way traditions come down and all kinds of thoughts and opinions are derived. The ear is the channel through which most errors are

introduced. The characteristics of our physical systems are hereditary; and, to some extent, our minds as well. As to the subjective causes of opinions after our birth, human education now does little to furnish a proper grounding for these. Education confined to pure mathematics and the "dead languages" fails to give us important thoughts or settled convictions upon vital subjects.

Only the proper environment is conducive to correct opinion. It is for this reason that most women, sheltered and surrounded by the constricting trifles of home life, are ordinarily more flippant and superficial in their opinions than men, with their wider contacts. The breadth of opinion of a community similarly depends upon the broadness of its contacts.

Ethicals laws are usually laid down as commands, rather than as statements of fact. A careful analysis of the "Ten Commandments" reveals that they confuse religion with ethics. The first four commandments are purely religious, and liable to be different in different religions. The fifth enjoins veneration for parents, which is carried to damaging extremes in China and elsewhere. Its appearance in so many authoritative moral codes has confused the proper relations of children and parents.

"Children are usually brought into the world through an act performed purely for the gratification of a sensual desire on the part of the parents, and without any thought whatever of the consequences. Under such circumstances the child could be under no possible obligation to the parents for any supposed sacrifice."

If there is some sacrifice involved in the gratification of the parental instinct, implanted to some extent in all

mammals, "this is more than offset by the pleasure of gratifying this instinct." Society would undoubtedly have benefited if the injunction had been reversed, and had called merely for parental care and recognition of the rights of children. While several of the remaining commmandments deal with moral questions, the compilation as a whole is more religious than moral.

Essentially moral sentiments deal with the notion of *advantage*. The formula for all correct moral sentiments is: The proposed action will result in advantage. Society has two types of minds: the egotistic, whose attitude is static; and the altruistic, which may be called the dynamic. The dynamic mind

"sees in every thing a potential superiority to its present condition. It demands the elevation of the low, not by almsgiving, but by education and enfranchisement, until no distinctions shall exist except those of actual native capacity to do and to be."

This altruistic class does not favor promiscuous and unorganized charity; instead,

"Humanitarianism aims at the reorganization of society, so that all shall possess equal advantages for gaining a livelihood and contributing to the welfare of society."

Morality rests ultimately upon intellectual capacity and general intelligence. Variations in ethical opinion are due to: (1) varying power to discern moral quality in action; (2) confusion of religion with morality; and (3) confusion of custom with morality.

Civilization rests upon ideas relating to the universe, to life, to man, and to society.

"The highest type of dynamic opinion is that respecting society. After dynamic opinions of the universe, of life, and of man have been formed, it is easy to rise to the position from which society can be contemplated as progressive and subject to a central control. . . . There exists one point at which ethical ideas and dynamic ideas closely approach each other, if they do not actually meet."

From humanitarianism, an ethical principle, is but one step to meliorism, a dynamic principle, which may be defined as humanitarianism without sentiment. Meliorism is not content to alleviate present suffering, it aims to create conditions under which no suffering can exist. It is ready even to sacrifice temporary enjoyment for greater future enjoyment—the pleasure of a few for that of the mass.

KNOWLEDGE: IMMEDIATE DATA OF IDEAS. We have now to inquire into the nature of the causal antecedents of thoughts themselves. Instead of saying that the character of ideas depends upon the character of the mind, we must say that the value of thought depends upon the degree of intelligence, which consists of intellect plus knowledge.

The two common errors concerning intelligence are: (1) overvaluation of the intellect; and (2) overvaluation of the origin of knowledge, as compared with its distribution. The problem is—is it more profitable to expend energy upon trying to improve the intellect, or in trying to increase knowledge? Both the relative importance of these two processes, and their relative ease of accomplishment, must be considered.

The rise of great minds from the lower classes indicates that the intellect of the individuals of society possess nearly the same original intellectual equipment, or

capacity for intelligence. The vast differences in the intelligence of the two classes arises from a difference in the distribution of knowledge. It is clear that the intellectual capacity of society is far in advance of its knowledge. It would be waste effort to try to increase what is already in excess, namely, intellect. And while society has heroically attempted to develop the intellect by varied intellectual gymnastics, these efforts have largely failed, or been fruitless, when knowledge was not increased proportionately. It does not strengthen the mind to revel in empty speculation, any more than it strengthens the stomach to act upon nothing. Truth and fact are the natural food of the intellect.

Since knowledge comes from experience, increase of knowledge must consist in a certain change of experience. First of all, experiences must be rendered reliable. Secondly, a means of systematic verification of experiences must be always available. Lastly, emphasis should be laid upon general truths, rather than upon specific details and isolated facts; and upon practical truths, rather than upon remote matters. That is, knowledge must be related to man's immediate environment. Of course, knowledge, as far as possible, must always be related back to the facts themselves, and not in a form too thinned by intermediary thinking.

The knowledge actually current in society consists, first, of conventions and manners; second, of differences in social station. The expressed aim of education is not to furnish true knowledge, but to develop the intellect, which we have shown to be both a redundant and a comparatively difficult task. The imperfection of human knowledge is caused by ignorance or by error—by the absence of ideas, or by false ideas. False ideas can come from a diseased organ of sense, from trickery, from un-

usual aspects of nature like mirages, and the like. Perceptions, judgments, and conclusions may each introduce successively an added opportunity for error.

Speaking generally, no important proposition should be deemed to have been satisfactorily established until it has been subjected to a thorough scientific analysis, and found to be based upon some tangible material *thing*, or upon some natural *law* established by inductive experiment, or upon some real *fact*, or physical change, actually known to have taken place. Knowledge derived from other persons always is suspect, due to the possibility of error creeping in during the process of transference.

The success of society as a system, and of the human race as inhabiting this earth, will depend upon keeping the intellect safely anchored to the firm ground of original knowledge.

We have shown that altruism is, at base, egoism. We must not look to altruism, then, for men to pursue the welfare of others, instead of their own.

"Whatever improvement is made in the present system must be brought about by the development of the means of equal self-protection, and not to any marked degree by the growth of altruism."

EDUCATION: THE DIRECT MEANS TO KNOWLEDGE. Just as the direct object of every individual is the increase of happiness, so the highest achievement of man's developed intellect and social consciousness is

"a systematic, predetermined, and successful scheme for the organization of happiness. Such a scheme must have for its primary object the equal distribution of the extant knowledge of the world."

The direct pursuit of happiness, even by the individual, is proverbially barren. No statute can enforce happiness. Although happiness comes from progress, progress can not be enforced by statute either. Only deliberative actions can produce progress; and deliberative actions spring from opinions, which in turn result from knowledge. The prevailing ideas of education, or the distribution of knowledge, may be classified under the five following heads: (1) education of experience; (2) education of discipline; (3) education of culture; (4) education of research; (5) education of information. This last may be defined as a system for extending to all the members of society such of the extant knowledge of the world as may be deemed most important.

Such education concerns itself only with the contents of the mind, and disregards the mind's capacity. Its object is to fill the mind with truth; to store it in such a systematic way with knowledge that it may make use of its stores in the production of rational thought. Such education must be the exclusive work of society itself. The claim that the functions of government should not be increased, is an inadequate argument. Only a system of education exclusively entrusted to the highest social authority is worthy of the name. The first step in all social progress must be taken by society itself. It may be said that society, as represented by government, is incapable of devising and conducting a system of education. If this is so, it merely means that we must wait until society is so capable. In spite, however, of complaints against government administration, it remains that no function that government administers would have been better administered by private enterprise. This does not mean that government should immediately take control of all private enterprises which concern the

general public. Conditions must mature gradually. In each case, the question must be: Is the age ripe for this change?

It is covetous private enterprise that breeds and fosters the idea that government administration means bad administration. The best work of the government has been that of a scientific character, such as coast surveys, geologic surveys, the naval observatory, and the like. Science does not flourish under the hectic atmosphere of private competition. And education is the science of sciences. It cannot be successfully conducted on the competitive system. Its recipients are not the same individuals as those who really desire that education be given. The state, in other words, the organized authority of society, is particularly fitted for carrying on educational work. That which society desires is that which is really needed. The object of education is social improvement. An uneducated class is an expensive class, producing criminals, paupers, drones, and a state of social stagnation. The educator is freest when he is a servant of the whole society; and only the pupil of the state can regard himself as the equal of any other pupil. Most important of all, only society ought to say what should be taught to its members.

Universal education will not only prevent the encroachments of the ignorant upon the intelligent; it will be of equal value in preventing the encroachments of the intelligent upon the ignorant. Some knowledge is harmful to society.

"The knowledge which enables man to manufacture intoxicating beverages is unquestionably an immense damage to society, and strikes directly at human happiness."

The distribution of education, rather than that of wealth, has been stressed, because the object has been to arrive at initial means.

"It is high time for socialists to perceive that, as a rule, they are working at the roof instead of at the foundation of the structure which they desire to erect."

The distribution of knowledge underlies all social reform.

"So long as capital and labor are the respective symbols of intelligence and ignorance, the present inequality in the distribution of wealth must continue."

Differences in intellectual capacity between the classes are small, compared to the differences in knowledge and the means of obtaining it. Whatever inequality of advantages may be produced by inequality of intelligence, it must be due to inequality of merit, and not of accident or chance.

"The present enormous chasm between the ignorant and the intelligent, caused by the unequal distribution of knowledge, is the worst evil under which society labors."

It has taught the intelligent classes to coöperate and become the capitalists and employers; while the ignorant classes have worked independently and individually.

"and have been compelled to turn over to the capitalists without any equivalent the greater part of the value they have created."

Coöperation on the part of the capitalists is recognized as the only proper and successful way to do business;

while any attempt on the part of the laboring class to co-operate is denounced as a sort of crime against society! The laborer is actually made to believe this, and the state frequently steps in to punish it as such. Labor pays heavy taxes, without, in the main, being aware of it.

"This state of things could not exist, if every body understood just what its effect is."

The objection that universal education would have to be compulsory is of no great value. All action in society is restrained action. Government requires yielding something of individual liberty in exchange for its general benefits. Talent can not be created; but opportunities for its growth and exercise can. The son of toil and want today is denied even the opportunity for reflection, the basis of intellectual growth. That universal education means the education of women as well as men, need scarcely be said.

The education of information deals, not with ways of doing things, but with knowledge of things—objects, phenomena, and laws. Every thing that has been made known by man should be made known to all men.

CHAPTER II

PURE SOCIOLOGY

SOCIOLOGY AND SCIENCE. Pure science is theoretical, seeking only to establish the principles, not their actual or possible applications. It rests on faith in the universality of causation. Science consists not in the discovery of facts, but in reasoning about facts.

The progress of science is no even, straightforward march. It is in the highest degree irregular and fitful, the work of a vast array of workers, each individual working more or less independently. The early stages in the history of a science seem chaotic, but they eventually crystallize into a firmly established science. It is so with sociology.

The subject-matter of sociology is human *achievement.* Not what men are, but what they do; not the structure, but the function. Sociology is concerned with social *activities;* it is a study of action, that is, of *phenomena.* It is the fact of permanent human achievement which broadly distinguishes man from the other animals.

"The environment transforms the animal; man transforms the environment. Now it is exactly this transformation of the environment that constitutes achievement. The animal achieves nothing. The organic world is passive. . . . Man, on the contrary, is active and assumes the initiative, molding nature to his own use."

There has been no important organic change in man during the historic period. But telescope and microscope multiply and refine his vision, airplanes give him wings, railroads and automobiles extend his legs, steamships give him fins, tools improve upon teeth and claws, and telegraphy and the radio gives him an instrument of which no animal has the rudiment. All these are the result of man's power to transform his environment.

"*Material civilization consists in the utilization of the materials and forces of nature.*" It is becoming increasingly apparent that the spiritual part of civilization is at least conditioned upon material civilization. Without a materal base, the spiritual can not exist. It flourishes only in the rich soil of a material prosperity. We may therefore ignore it, and devote ourselves to a study of material civilization only.

Matter is dynamic, and every time man has touched it with the wand of reason it has responded by satisfying a want. The products of human achievements are not material goods, or wealth. "Material goods, as, for example, food, clothing, and shelter, are, it is true, the ends; but the real products of achievement are means." Involved in the idea of achievement is the idea of permanence. Nothing that is not permanent can be said to have been achieved. Material goods are all perishable. Wealth, the transient, is material; achievement, the enduring, is immaterial. The products of achievement are not material things at all. They are methods, ways, principles, devices, arts, systems, institutions. In a word, they are *inventions*. Achievement is anything and everything that rises above mere imitation or repetition. Every such addition to civilization is a permanent gain, because it is imitated, repeated, perpetuated, and never lost.

Language itself was an achievement of stupendous importance. Literature has become one of the great achievements. Art is another. Philosophy and science must be ranked as achievements, vast and far-reaching in their consequences. The invention of tools, instruments, utensils, missiles, traps, snares and weapons comes under this head, crowned by an era of machine manufacture, artificial locomotion, and electric communication. But the tools of the mind are often overlooked. An arithmetical notation, or method of expressing numbers by symbols, is a tool of the mind. The Arabic system of numerical notation is a typical permanent human achievement. All forms of higher mathematics are among the great permanent achievements of the race. The industrial arts are much more obvious, though perhaps not more important human achievements. All art is due to invention, and invention is a mental process. Thought, when applied to matter, is dynamic. The article produced will wear out; the materialized idea lives on.

In general, all human institutions are achievements. Institutions are never abolished; they alter, and under different names live on. The one condition of achievement is *social continuity*. The term achievement implies this. It is a sociological fact that all the human races do not belong to one and the same series of cultural development. Some are so primitive that they have done nothing to contribute to the general stream of culture. Others, such as most of the Asiatic races, have followed lines of development of their own, having little in common with European culture. Oriental civilization seems to have consisted chiefly in what may be called spiritual culture, largely ignoring material culture. As matter alone is dynamic, they have acquired very little social

energy, or social efficiency. They have not called nature to their assistance, and consequently they are practically powerless when brought into competition with Western civilization, both in war and in industrial efficiency. In manufacture, they have relied upon the hand rather than the machine; they have not employed the two great agencies, steam and electricity. Unless they westernize, as Japan is doing, they will be permanently sidetracked.

Sociology deals mainly with the historic races, because these alone exhibit social continuity. The Oriental nations, through the philosophy of quietism, the denial or subordination of the will to live of the Oriental nations are fatal to that vigorous push which is responsible for Western civilization. Desire is the social force; and, where there is no desire, no will, there is no force, no social energy.

The essential characteristic of all achievement is some form of knowledge. Knowledge cannot be transmitted through heredity. It has to be acquired anew by every member of society. The process by which knowledge is handed on may be called *social heredity*. This is the same thing as social continuity.

Achievement has come through the varied efforts of varying men. One of the most important factors of social evolution is individuality in achievement. The natural inequalities of men, due chiefly to varied intellectual capacities and attainments causes them to follow different and varied lines and produces varied results. Genius is a part of focalization of psychic power. If we expand the meaning of genius to include all that are called great for any reason, we arrive at a crude basis for estimating the proportion of geniuses to population. Galton estimated that, of high grade talent, there are in England 250 per million, or 1 to every 4,000 males of

fifty years of age and upward. This may probably be accepted as approximately true of the leading countries of the world. The rest of mankind is not socially worthless, but devotes itself mainly to statical work which preserves and perpetuates achievement.

Since our study is of achievement, the contemptible side of humanity vanishes from view, and only what is worthy or grand is presented to the gaze. Civilization is merely the sum total of human achievement. And while achievement is exclusively the work of individual men, it can only take place in a social state of coöperation on a grand scale, and it is impossible if the series of results is ever allowed to be interrupted.

As soon as men rose above the demands of the stomach and the loins, the brain became the center of feeling, and mental cravings arose, which constituted as effective social forces as hunger and love. Art, philosophy, literature, industry, and science came gradually into existence, out of these forces, and combined in the work of human achievement. Under the operation of these forces, the chief ambition of all vigorous minds and enlightened spirits became that of contributing something to the great stream of civilization. Insofar as love of praise plays its part in the motives for achievement, it is to be welcomed as an aid to other motives in accomplishing the results. Yet there is a tendency to overestimate the share this has played.

Thus far, only a few have contributed to this stream. But the percentage is increasing, and the time may come when all may at least aspire to the honor of laying some small offering on the altar of civilization. As the ages pass, it becomes clear to larger numbers that this is the true goal of life, and larger numbers seek it. Since only those who achieve are remembered, achievement comes

to constitute a form of immortality. As the hope of personal immortality wanes under the glare of scientific truth, there is likely to be a still stronger tendency in this direction.

In the complex sciences, the quality of exactness is only perceptible in their higher generalizations. Sociology can have little to do with current questions. All that the sociologist can do, even in applied sociology, is to lay down certain general principles as guides to social and political action.

The method in sociology is generalization. This is the process of grouping phenomena and using the groups as units. The facts that the sociologist must use are always at his hand. If he travel through all lands, he will find the same facts. Their very nearness clouds their importance and is a bar to a full comprehension of them. Ward calls this "the illusion of the near," and likens it to the difficulty of seeing a forest or a city while in the midst of it.

Even in civilized races, there are certain things absolutely common to all. The great primary wants are everywhere the same and are supplied in practically the same way all over the world. Governments seem to differ immensely in form, but all governments aim to attain the same end. Creeds, cults, and sects multiply and seem to present the utmost diversity, but there is a common basis even of belief, and on certain occasions all may and sometimes do unite in a common cause. The common passions, and the acts growing out of them, are the same among all men. Acts deemed contrary to established law and order occur with astonishing regularity, as statistics establish. However, history proves that the forces underlying crime can be drawn off into other channels by civilizing agencies.

The *historical perspective* is the discovery of law in history; it is the oldest of all sociological conceptions. The earliest gropings after a social science consisted in a recognition of law in human affairs. But science deals with phenomena and can deal only with phenomena. Sociology, therefore, can become a science only when human events are recognized as phenomena. As opposed to the erroneous doctrine of free will, the scientific view asserts that human events are phenomena of the same general character as other natural phenomena, only more complex and difficult to study because of the subtle psychic causes that so largely produce them.

The tendency at first was to find in environment the chief cause of social variation; some authors sought to expand the term climate to include all this. This was carried too far by some; though the great importance of climate and physical conditions must be recognized.

The fundamental law of everything psychic, and especially of everything affected by the intelligence, is the *law of parsimony*. In political economy it is usually called the law of the *greatest gain for the least effort*, and is the basis of scientific economics. But the law is much broader than this; it plays an important rôle in psychology, and is also the scientific corner-stone of sociology. With the law of parsimony the maximum stage of generalization seems to be attained, and we have a law as exact as any in physics or astronomy. It is, for example, perfectly safe to assume that under any and all conceivable circumstances a sentient, and especially a rational being, will always seek the greatest gain, or the maximum resultant of gain. This is universally true of human conduct. Self-preservation has always been the first law of nature, and that which best assures

this is the greatest gain. So unerring is this law, that it is easy to create a class of paupers or beggars by simply letting it be known that food or alms will be given to those who ask. All considerations of pride or self-respect will give way to the imperious law of the greatest gain for the least effort. This principle underlies the domestication of animals and the taming of wild beasts. As soon as the creature learns that it will not be molested and that its wants will be supplied, it submits to the will of man and becomes a parasite. Throughout the organic world parasitism is only an application of the law of parsimony.

It is the function of methodology, or the principles of procedure, in social science to classify social phenomena in such a manner that the groups may be brought under uniform laws and treated by exact methods. Sociology then becomes an exact science. In doing this, it will have passed from chaos to cosmos. Human history presents a chaos. The only science that can change it into a definite social universe is sociology.

GROWTH; SOCIAL MECHANICS. The science of botany, in its wide and proper sense, teaches us that the organic evolution of plants, and by inference, of animals as well, is *sympodial.* This term is employed by botanists to designate a mode of branching by which the main trunk, after reaching a certain height, gives off a branch into which the bulk of the tree's life enters, so that the branch virtually becomes the trunk, and the original trunks alters to a branch, lessens to a twig, and may ultimately disappear. Everywhere and always the course of evolution in the plant world has been the same; the original trunk has at some point reached its maximum development and given off a branch that has carried the process of evolution on until it should in turn give birth

to a new branch, which can only repeat the same history, and so on indefinitely. Each successive branch possesses qualities which enable it to better resist the environment. When we compare the plants of today with the great fallen races of the past, we find that they are merely the persisting unspecialized types which escaped destruction simply because they were unspecialized. The law of the persistence of the unspecialized is only the counterpart of the law of the extinction of the specialized. Specialization is always a preparation for destruction. Representing adaptation to existing conditions, it becomes inadaptation as soon as these conditions change. Passing over to the field of human history, we find a similar condition. Races and nations become overgrown and disappear. Peoples become overspecialized and fall an easy prey to the more vigorous surrounding peoples. Race and national degeneration or decadence means nothing more than the pushing out of the vigorous branches at the expense of the parent trunks.

The old view of creation—and the theological view generally—is that creation is a making something out of nothing. The only rational idea of creation has always been that of putting previously existing things into new forms. This is the fundamental form upon which all art rests. Art erects ideals, and ideals are creations in just this sense. Nature is everywhere imperfect, and art always aims to improve upon nature. The mind, at a certain stage of development, or with a certain amount of cultivation and training, becomes capable of forming ideals of perfection. It acquires the power of seeing the defects in nature and of eliminating them in imagination. The essential condition of all art is the psychic power of forming ideals. Their execution

is certain to follow their creation. What is true of fine art is true of practical art also. They are both a putting together of raw materials so as to form new combinations. The product is something different from that which existed before. It is a creation.

Similarly, nature creates. Every new chemical compound is not only a synthesis but a creation; for it possesses qualities different from the elements entering into the compound. Wherever there is combination, as distinguished from mixture, something new results, and there is creative synthesis. This is the principal method of nature. In a similar way, the more complex phenomena of the higher sciences are the creative products of phenomena of a lower order. Each of the higher sciences is a product of the creative synthesis of all the sciences below it in the scale. It is not a mere synthesis of these lower sciences, but a new compound, a new creation. Sociology is a creation of all the sciences below it.

Similarly, the social consciousness or collective mind is a product of spontaneous creative synthesis, or combination of all the individual minds. The social mind sometimes seems to be more primitive than the individual mind. This is due to the fact that, in manifestations of the social mind, the artificial restraints of civilized life are removed. Acts which would be objectionable in private life are shifted to the broad shoulders of the group. No individual holds himself responsible for them.

As has been shown, nature is creative, as well as man. As change goes on from the nebular chaos toward universal cosmos, from universe to life, and from life to mind, certain stages are reached in which a new creative product is brought forth so unlike anything that has

hitherto existed, and so cardinal, as it were, as to give a new starting point to all future evolution. At every such stage the universe seems to change front and from then on to march in a new direction. There have been many such cosmical crises, after each of which there has been a new universe. Confining ourselves to a consideration of the earth, we practically know that in the course of its history there have been evolved three of the epoch-making properties that we are considering—life, feeling, and thought. Placing these major products in the descending order of their development, we have the following table:

SYNTHETIC CREATIONS OF NATURE

PRODUCTS	DIFFERENTIAL ATTRIBUTES			
	PROPERTIES	ACTIVITIES	PHENOMENA	CAUSES
Universal Ether	Vibration	Radiant		
Chemical Elements	Chemism	Molecular	Physical	Efficient
Inorganic compounds				
Organic compounds				
Protoplasm	Motility	Molar	Vital	Conative
Plants	Life			
Animals	Feeling			
Man	Intellect		Psychic	Purposive
Society	Achievement		Social	

Failure to understand the principle of creative synthesis has led to grave misconceptions. There is the old popular error, which survives from the theological stage of history:

"The universe is endowed with life and intelligence. All such erroneous world views rest on a basis of truth. They are simply crude conceptions of the truth. The soul of truth contained in this error is that the universe possesses the potency of life and mind. . . . To say that they (life and mind) exist in some diffused state in the universe is as false as to say that houses exist in a bank of clay out of which bricks may be made."

Life and mind are new creations, which can only be brought into existence through the delicate instrumentalities of organic development.

The feelings had a much earlier origin than the intellect. One of the inherent qualities of feeling is that of seeking an end. In common speech, appetite, or psychic motive, is simply desire, and desire of any kind is a true natural force. The collective desires of associated men are the social forces.

Desire is a psychic condition resulting primarily from restraint from motor activity, exerted by the environment, and where strong enough, it overcomes these barriers and causes activity. It is a sensation; and it must be regarded as an unpleasant sensation. It is in the nature of pain; differing from other pains in that it contains a suggestion of action for relief. Desire might almost be defined as dissatisfaction.

Relief from any pain, if sufficiently rapid, can scarcely be distinguished from pleasure. It is relative pleasure. Supposing that the desire is fresh and healthy, its satisfaction is a pleasure. When we consider the great num-

ber and variety of desires to which man is subject, and the fact that most of them are actually satisfied sooner or later, we may form some idea of the volume of pleasure thus yielded. It constitutes the great bulk of all that makes existence tolerable. The relative amount of satisfied and unsatisfied desire may be roughly calculated. If unsatisfied desires exceed, we have a social state which may be called a "pain economy"; if the reverse is true, we have a "pleasure economy." All social progress is a movement from a pain economy toward a pleasure economy, or at least, a movement toward the satisfaction of a greater and greater proportion of the desires of men.

The time element is important in considering pleasure. This alone gives reality to it, and when we see the perpetual stream of desires being constantly satisfied, we see that in a normal human life pleasurable sensations of various kinds practically fill all the intervals of existence. This constitutes human happiness, and is the only object worth striving for.

Of the stronger, conscious, and often violent desires, those of hunger and love, of course, hold the first place. They are the chief mainsprings to action; it may almost be said that all other desires are directly or remotely derived from them. These forces are as strong in men as in animals, and in the higher types of men as in the lower types. In society, they become the principal social forces and the foundations of sociology.

Civilized man fears the social forces, as primitive man feared the physical forces. Fear and not love of nature is the characteristic attitude of primitive peoples. Civilized man is still a savage in his attitude toward the more complex social forces. He has no more thought of controlling, much less utilizing, the social forces than the savage has of controlling or utilizing the thunder-

bolt. Only the science of sociology, by teaching the true nature of human motives, desires, and passions, can alter this attitude.

What is the end toward which nature is observed to be moving, in an ascending series of creative acts? Throughout the entire process we see that there is an increasing proportion of organic matter, as compared with inorganic matter. This is accompanied by a corresponding increase in the degree of structural development. The object of nature, in the sense of its observed tendency, may be said to be the conversion of as large an amount as possible of inorganic into organic and organized matter.

Life, originating in the sea, has as its primary differentiation from lifelessness *motility* or spontaneous mass-movement. Motility appears first in protoplasm. The property of *awareness, consciousness,* or *feeling* for these are one in origin, is likewise primary in life.

Feeling may be regarded as a *condition to the existence of plastic organisms.* For this purpose, too, feeling must involve, in however feeble a degree, a capacity for pleasure and pain. All psychic phenomena are necessarily conscious, and consciousness inheres in all feeling and is its psychic essence.

Feeling is a means to the perpetuation and increase of life. But in addition to being a means to the end of nature, feeling is also the end of the creature. The creature is conscious only of itself; it is wholly unconscious of the ends it is serving. Feeling was unintended in the scheme of nature. Feeble and accidental as was the origin of feeling, it soon became of enormous importance. It was the dawn of mind in the world. Feeling, which was created as a means, and has remained the most potent of the means to nature's end, became

the sole end of the sentient being and constitutes the moral world. So long as feeling and function work in harmony, pleasure means life, health, growth, and multiplication, while pain points to danger, injury, waste, destruction, death, and race extinction. To the individual, pain is evil, and the introduction of pain into the world is the true origin of evil. Evil, therefore, was a means of preserving life, and all evil in the world is, broadly viewed, only premonition.

On the other hand, pleasure represents the good. It denotes the performance of function. While to the individual it is an end, so long as the original adaptation of feeling to function exists it also secures the end of nature. In a healthy state, the normal exercise of every organ or faculty results in pleasure. This satisfaction, or pleasure, is the foundation of the economic conception of utility. The standpoint of feeling is utility; the standpoint of function is necessity. The one is the good of the individual; the other is the good of the race. The contrast between happiness and virtue is based on this same distinction.

"Virtue relates to function, and signifies a course of conduct advantageous to the race and the general scheme. Vice, in the last analysis, is conduct that in some way threatens the race, or that antagonizes the agencies making for the preservation and continuance of life."

The pursuit of pleasure as the end of the individual, increasing with the constantly higher development of organic life, constituted a perpetual menace to the continuance of the organisms individually, and to the success of the organic experiment as a whole. "This ever-increasing *waywardness* on the part of sentient beings in search of pleasure must be checked in the general inter-

est of life." There commenced that remarkable process, called by Darwin *natural selection,* by Spencer the *survival of the fittest,* and by Ward the *elimination of the wayward.* To check the growing tendency to deviate from the path of function, a device, called *instinct,* was adopted for the animal world in general. Instinct is a means of securing a greater adaptation of feeling to function.

The second restraint to feeling, limited to man alone, might be called social instinct or group instinct, and, has somewhat the nature of instinct. This might be called religion, but it must clearly be perceived that by this is meant the original undifferentiated plasm out of which all the more important human institutions have developed.

Nature is not only a becoming; it is a striving. The step from feeling to desire is short. Desire presupposes memory, which is nothing but the persistent representation of feeling, continued sense vibrations after the stimulus is withdrawn. The word soul, putting aside its religious usage, may be said to express the phenomenon of animation or conscious spontaneous activity.

When the volume of feeling is considered as essentially a striving, there are found in it all the elements of the will. It is the conative faculty, and therein lies its importance to sociology. Using desire in its widest possible meaning, there is a sense in which it may be identified with will. The will makes it possible for the interests of life to be served, desires to be satisfied, remembered pleasures to be renewed, pains experienced or feared to be escaped, life to be preserved and continued, hopes, ambitions, aspirations, goals to be realized. This is the meaning of optimism as a principle of nature. There is no balancing of the gains and losses of existence.

Existence must be preserved and nature has pointed the way. The will gives the command and the body obeys, the result being limited only by the amount of physical power and the amount of resistance encountered. Optimism is the normal attitude of all sentient beings, no other attitude being possible in the animal world, or in any type of mankind that has not reached a high degree of intellectual development. Natural, spontaneous, or impulsive optimism is true, and is a healthy social influence. It means self-preservation, race continuance, and progress. But rational optimism is both false and shallow. Reason applied to it leads at once to pessimism. Out of this grow the philosophies of despair and Nirvana. Rational optimism and pessimism are products of the naked reason. The true guide is *science*. Man must learn the how and why of the means of nature. The only science that can teach it is social science. The mental and social state toward which social science points is *meliorism*. The word means the liberation of the will, so that it may assert itself as freely and as vigorously as it ever did under the rule of blind impulse.

As the social forces are psychic, social mechanics has to do with psychic forces, from which can be derived the word *psychics*. The essential basis of psychics is the fact that psychic phenomena obey uniform laws. But even among animals there are complications that obscure this law. They are all the result, in animals as well as in man, of conflicting motives. The law of parsimony, already explained, when used with reference to social phenomena, might be rephrased: greatest pleasure for least pain.

Social mechanics is that branch of the social science which treats of the manifestation of social energy. The fundamental classification of mechanics is into statics

and dynamics, and social statics and social dynamics are legitimate branches of mechanics.

SOCIAL STATICS AND SOCIAL DYNAMICS. A law is a theory; a principle is the manner of its application or operation. The universal principle, operating in every department of nature and at every stage in evolution, which is conservative, creative, and constructive, Ward calls *synergy,* a word which best expresses its twofold character of *energy* and *mutuality,* or the systematic and organic *working together* of the opposing forces in nature.

In the organic world, the primary contending forces are those of heredity and variation. Heredity is the tendency in life to continue in existence whatever has been brought into existence. Its result, if unimpeded, would be forever to increase the quantity of life, without affecting its quality. But in life, this comes into constant collision with the environment which checks, deflects, shunts and buffets heredity this way and that. It is the environment which causes constant deviation from the hereditary type; the organism must conform to the mold established for it by its environment. The process of compelling the organism to undergo this transformation and secure this conformity is called *adaptation.*

It is easy to pass from organic structures to social structures. Social structures are the products of social synergy, that is, of the interaction of different social forces, which in and of themselves are destructive, but whose combined effect, mutually checking, constraining, and equalizing one another, is to produce structures. The struggle for existence may be rephrased as the *struggle for structure.*

Social statics is that subdivision of social mechanics,

or that branch of sociology which deals with the social order. The social mechanism, taken as a whole, constitutes the social order. The most general and appropriate name for social structures is human institutions. Human institutions are all the means that have come into existence for the control and utilization of the social energy. The most fundamental human institution, which Ward calls *the group sentiment of safety,* has already been dealt with. Out of it have emerged religion, law, morals, and all ceremonial, ecclesiastical, judicial, and political institutions. Institutions may be logically classified into spontaneous or natural institutions, and artificial ones. Thus we have religion, the natural institution, and the church, the artificial one. Similarly we have law, the sense of order in society, and its artificial relative, the legal system. Morality in its earliest stages was spontaneous; its artificial relative is the moral code. Language was a spontaneous institution; literature, in the sense of written languages, is the artificial institution that grew out of it.

The first manifestation of a growing brain is excessive mimicry, or the special faculty of *imitation.* After this came the simplest manifestations of the inventive faculty. In the transition from ape to man, certain changes took place, such as the change to an erect posture, the substitution from a plant and fruit diet to one composed largely of meat, and many others. The origin of the family also occurred during this period. The primitive family naturally increased in size and grew into the kinship group. The word *horde* may be loosely applied to characterize this group. Man rose above this into the clan, and eventually into more elaborate social groupings.

The groups began to differ in all the details of their

institutions. Blinded by the illusion of the near, each group saw the rest as entirely different, and regarded them with utter detestation. This period of social differentiation, with its wild semi-animal freedom, eventually resulted in general war between the groups. The genesis of society, as we see it, has been through the struggle of races. The first step in this is that of the conquest of one race by another. The various steps are: (1) Subjugation of one race by another; (2) Origin of *caste;* (3) Gradual mitigation of this condition, leaving great individual, social, and political *inequality;* (4) Substitution of *law* for might, and origin of the idea of legal *right;* (5) Origin of the *state,* under which all classes have both rights and duties; (6) Cementing the different racial elements into one *people;* (7) Rise and growth of *patriotism* and formation of a *nation.*

One element in the formation of a people almost totally overlooked in the study of this process, Ward calls *social chemistry.* In a war between two savage or barbaric races, the women of the conquered race are always appropriated by the men of the conquering race. Aside from purposes of lust there is a certain intuitive sense that the mixture of blood makes for race vigor. There is in addition the charm of sexual novelty. The formation of a people, therefore, is not only a political, civil, and social process, but it is also largely a physiological process.

With the growth of the nation comes the sentiment of patriotism.

"It is not a very exalted sentiment, and belongs to the same class as that by which animals become 'wonted' to the particular spot where they have been raised, with no reference to its superiority over other places."

The warlike method is not the only possible kind of social assimilation. There are other forms late derivative, peaceful forms, which have already begun to operate in advanced societies, and which may ultimately supersede the original, spontaneous, natural method. It may well be that the warlike period has nearly reached its end, and that an era of peaceful rivalry and friendly striving is about to be inaugurated.

In all departments of nature where the statical condition is represented by structures, the dynamic condition consists in some change in the type of such structures. Social progress proceeds like the swinging of a pendulum, which ultimately comes to rest unless some new force is introduced. After a change for the better has been introduced and its value recognized, it becomes sacred with time. The older an institution is, the more sacred and inviolate it is. The permanence of social structures from this cause becomes one of the chief obstacles to reform, when a changing environment and internal growth demand this. Progress is a late conception of man. According to Bagehot, the ancients had no conception of it. They not only did not reject the idea, they did not even entertain it. Oriental nations are largely the same now. Savages do not improve. Very few, even in our culture, believe that improvement is possible anywhere and everywhere. As Dr. Ross puts it:

"Who expects change in worship or funerals, as he expects it in surgery? Who admits that the marriage institution or the court of justice is improvable as well as the dynamo? Who concedes the relativity of woman's sphere or private property, as he concedes that of the piano or the skyscraper?"

Social degeneration or decadence is not strictly dynamic, but the result of a diseased social system. The real problem is, how to secure social stability, to prevent social decadence. The three principles of social dynamics are: (1) *difference of potential,* manifested chiefly in the crossing of cultures; (2) *innovation,* which interrupts the monotonous repetition of social heredity; (3) *conation,* or social effort, by which the social energy is applied to material things, resulting in achievement. All these principles are unconscious social agencies working for social progress.

The purpose of sex, as biology has discovered, is that sex *is a device for keeping up a difference of potential.* In other words, a device for avoiding the simple repetition of heredity, by introducing constant variation. Nature begins reproduction without sex. Next comes an alternation of sexless and sexual reproduction in the same organism. Finally the organism adopts the sexual method of cross-fertilization, to speed up the process of variation that the environment alone had achieved in the sexless stage. The object of sex is not reproduction, but variation. It is organic differentiation, higher life, progress, evolution.

Difference of potential is not only a physiological and a physical principle, it is also a social principle. The cross fertilization of cultures is to sociology what the cross fertilization of germs is to biology.

Progress results from the fusion of unlike elements. This is creative, because from it there results a third something which is neither the one nor the other, but different from both, and something new and superior to either. But the elements must be similar to some degree, so as not to be unassimilable. It must be cross fertilization, and not hybridization. All cultures are

supposed to be assimilable. Still there are some races whose culture differs so widely from that of others that they seem to form an exception to this law. A race of low culture has so little potential energy, that it produces no appreciable effect on the one of high culture, while the higher civilization immediately overwhelms, engulfs, and absorbs or destroys the lower.

The dynamic principle next in importance to that of difference of potential is innovation. The biological analogy to that is the *sport*. This can only occur in sexual reproduction. Whenever the life force breaks over the bounds of simple heredity and goes beyond the process of merely repeating and multiplying the structures that have already been created, it becomes innovation, and changes the type of structure. Social innovation proceeds upon the same principle. In the greatest majority of the members of society social energy is below the level of healthy activity, and in a very small minority it is far above the possibility of consuming it. Surplus social energy is confined to these favored groups, and all social innovation emanates from them. The leisure class has done what it has for society by what Veblen calls its "instinct of workmanship," which is nothing more or less than the dynamic principle of innovation. Dynamic action is that which goes beyond mere repetition. It discovers new ways. It is alteration, modification, variation.

The dynamic principle next in importance to that of difference of potential is innovation.

The third dynamic principle, conation, grows out of the second. All dynamic actions have three necessary and essential effects: (1) To satisfy desire; (2) To preserve or continue life; (3) To modify the surroundings. This third effect is the transforming of the environment.

All social progress consists in this. This is not the conscious and intentional effect of the action; that is merely the satisfaction of desire. Both the second effect which is the maintainance of the social order, and the third, the furtherance of social progress, are not only matters of complete indifference to the individual, but are for the most part undesired, unintended, and unknown by him. Only among the most enlightened is progress desired.

THE ONTOGENETIC (PRESERVATIVE) FORCES. We have already classified, in our study of dynamic sociology, the social forces. Turning first to the preservative forces, those dealing with food and shelter, we note that the struggle for existence did not end with the emergence of the human species from the animal world, but has continued down to the present day.

All social processes that can be called economic have their origin in exploitation. The use of the bodies of the weaker races for food was of course the simplest form of exploitation to suggest itself. As conquest and subjugation took place, slavery, a new form of exploitation, came in. The women and warriors were enslaved, and the system of caste that arose converted the conquered race into a virtually servile class, while this service and the exemptions from labor it entailed converted the leaders of the conquering race into a leisure class. Such was the origin of slavery.

Social institutions, which come in as necessary benefits, in time outlive their usefulness, survive as vestiges, and become, due to the inertia of social progress, positive dangers. Slavery was an improvement upon extermination, and still more so upon cannibalism. It was universal throughout antiquity, and continued in Europe through the Middle Ages. The sentiment that led to its abolition is hardly older than the last two centuries, and

was confined almost exclusively to that form of slavery which consisted in the importation of natives from more primitive countries, chiefly Africa, and enslaving them in civilized countries.

Economists, socialists, statesmen, and industrial reformers, however widely they differ on other matters, agree that all value in the economic sense is due to labor. Labor is not natural to man. The instinct of workmanship is simply the love of, or pleasure in, activities that immediately satisfy desires, and in which the satisfaction is constantly and vividly before the mind. Labor, in the conventional sense, possesses no such stimulus.

The pursuit of food wherever it can be found by the members of the primitive horde can no more be called labor than can the grazing of a buffalo or the browsing of an antelope. Nothing in the activities of the more advanced American Indians approached labor, except the work of the women in caring for the men and the children, and in performing the drudgery of the camp. Prior to the period of social integration, man was utterly incapable of sustained labor, and had no conception of it.

How did man learn to work? Nothing short of slavery could ever have accomplished this. The only thing a conquered race possessed that had any permanent or continued value was its power of serving the conqueror. The motive to labor is no longer the desire to enjoy the fruits of labor. The motive now is fear of the lash. The number of conquering races has always been relatively small, and the number of conquered races has been correspondingly large. This came at length to mean that the "ruling classes" constituted only a small fraction of the population of the world, while the subject classes made up the great bulk of its population. For

instance, an Athenian census of 309 B.C. showed 21,000 citizens, 10,000 foreigners, and 400,000 slaves! Practically, therefore, all mankind has been thus kept in training all these ages. Slavery may hence be regarded as a civilizing agency.

An animal can scarcely be said to possess anything. Though predatory animals possess their prey after catching it and while devouring it, this can hardly be dignified with the name of property. Even among primitive men, the line of property can really be drawn at the point where artificial products come in. Even a club is artificial. The skin of an animal obtained by the aid, usually, of some skinning implement, can be called artificial, and may be said to "belong" to its "owner." But for most of the possessions of undeveloped races communal or group ownership is the prevalent form.

With the period of conquest and subjugation of inferior races, property began to be regarded generally as an individual possession. Since property is only valuable insofar as it satisfies desire, the first form of property at this stage consisted in slaves, that is, in something that could satisfy the owner, and gratify his wants. Beginning with women, who could gratify his lust and serve him, it extended to men, who could furnish him with luxuries and do his general bidding. Land ownership came in at this time. In earlier stages, land had at best been regarded vaguely as the property of the group. But, after the conquest of a race, the conquerors proceeded to claim the land of the conquered, and to divide it up among themselves. The actual condition was much more varied than this indicates. Not all of the conquering race are chiefs, rulers, lords, or their immediate proteges; some were simply citizens, obliged to maintain

themselves by their own effort. Nor were all the members of the conquered race slaves. A considerable number were in the position of the citizens just described. The process of mingling the blood through intermarriage rapidly obliterates the race lines.

The true economic idea of property is the possession of useful commodities in excess of immediate needs. It is based on the division of labor, which creates all things in excess, and secures their mutual exchange. Property in this sense is impossible except under the protection of law, and under the power of the state.

Of all the many ways in which the principle of permanent possession, or property, contributed to social development, the principal one was the incentive it furnished to accumulation. Without accumulation, property would have very little socializing influence. But when it becomes evident that a surplus of possessions over immediate needs allowed the holder to save it for future use, or barter it for things he did not possess, he will begin to acquire as large an amount of it as he can, and hold it for these and other purposes. Until this was possible, the division of labor was useless. The division of labor therefore was impossible until the state was formed.

But property means more than this. It was the basis of exchange, of trade, of commerce, and of business in general, as well as of industry in the more restricted sense. Property, in essence only a means to an end, became an end sought for itself. A new desire, a new want, was thus created, which finally developed into the most imperative of all the wants. Property assumed the character of wealth; and the pursuit of wealth, wholly irrespective of the power to use it, became the supreme passion of mankind. In spite of its dark side,

such a passion, considered as a spur to activity and as an agent in transforming the environment, must be admitted to have been most powerful of all the motor forces of society.

A large part of its final intensity came from the adoption, at a certain stage of the movement, of a symbol or representative of property, in the form of a circulating medium, or money. Through this device all forms of property became blended and reduced to one, and the pursuit of wealth became converted into the pursuit of money, which stands for wealth.

Production is the creation of property. This, though true, is not a definition, since there are forms of property, such as land, which are not properly produced.

"It might naturally be supposed that under a system of slavery, where the majority of the population is compelled to labor, production would be very rapid, but this is not the case. However large the number of slaves, the masters find ways of consuming all they produce . . . slaveholding nations do not acquire wealth."

The great wealth of the leading nations of the world, at the present time is almost wholly due to *machinofacture.*

Under the exact scientific laws of political economy, all surplus production should go to the ruling, owning, employing class. The slave of course owns nothing. But neither should the wage worker own anything. The wage, according to the Ricardian law, is fixed at the precise amount that enables him to live and reproduce. Outside of slavery, this law has not always operated rigidly in society. Social distribution is the socialization of wealth. It is a transgression of the iron Ricardian law.

Consumption means the satisfaction of desire, which is the ultimate end of conation. Animals and inferior types of men literally "eat to live." An animal can hardly be said to take any pleasure in eating; the demand for nutrition is so imperative, that it wholly excludes all other considerations. This is largely true of primitive man.

"It might almost be said that the length of time it requires for food to pass from the lips to the stomach is a measure of civilization."

Instead of being eaten in its natural state all food is now prepared, the most important part of the preparation consisting in cooking it. Propositions for a time-saving "synthetic food" would not be a step forward, but a return to the savage and animal method.

THE PHYLOGENETIC (LOVE) FORCES. This section may really be regarded as only a continuation of the preceding one, since no fact in biology is better established than that reproduction represents a specialized mode of nutrition through the renewal of the organism. Haeckel says, "The process of reproduction is nothing more than a growth of the organism beyond its individual mass." The arrest of nutrition hastens reproduction, while abundant nutrition checks, and may even prevent reproduction. Individual nutrition will be continued so long as there is no danger of the individual being cut off; then reproduction imperatively steps in.

The accepted theory to account for the existing relations between the sexes is the *androcentric* or man-centered theory. This is the view that the male sex is primary, and the female secondary in the organic scheme; that all things center, as it were, about the male; and that the female, although necessary in carrying out

the scheme, is only the means of continuing the life of the globe, but is otherwise an unimportant accessory, and incidental factor in the general result.

Numerous facts seem to support this. Among the animals with which we are most familiar, the male is larger than the female, stronger, more varied in structure and organs, and more highly ornamented and adorned, than the female. The same is true of the human race. This is especially true in respect to brain development and its products. Not only is the inventive genius of woman low as compared to that of man but so also is her creative genius. Her speculative genius, or the power of generalization, is even lower.

Ward's theory is the *gynecocentric* or woman-centered theory. This is the view that the female sex is primary and the male secondary in the organic scheme; that originally and normally all things center, as it were, about the female; and that the male, although not necessary in carrying out the scheme, was developed under the operation of the principle of advantage, to secure organic progress through the crossing of strains. It accounts for the prevalence of the man-centered theory by man's superficial knowledge of such subjects, chiefly influenced by the illusion of the near, but largely, in the case of man, at least, by tradition, convention, and prejudice.

Nature's problem was to secure the necessary continuous nutrition, and keep the organism growing beyond the point where the original structure tended to break down. Nature developed a number of methods of reproduction, constantly increasing in complexity. These steps, in their main outlines, are:

(1) Division, or fission. This is the method of the amoeba. The adult splits into two nearly equal

portions, each of which matures, divides, and so the process goes on.

(2) Budding, or gemmation. Here the organism divides into two very unequal parts. A small portion of its substance separates itself, and later matures and produces a bud or buds in turn. This method of reproduction takes place in one-celled organisms, certain worms, and widely among plants.

(3) Germ budding, or polysporogonia. Within a many-celled individual a small group of cells separates from the surrounding ones, gradually develops into an organism similar to the parent, and sooner or later finds its way out of the mother.

(4) Germ cell formation, or spore formation. In this a single cell, instead of a group, becomes detached from the interior of the organism, but does not further develop until it has escaped from the latter. It then increases by division, and forms a many-celled organism like its parent. This method is common among certain low types of vegetation.

(5) Virgin reproduction, or parthenogenesis. This is usually classed as a backward step from a more advanced form. Here germ cells, similar, to all appearances, to eggs, are capable of developing into new beings without the aid of any fertilizing agent. The same cells may also be fertilized, and the sex of the resulting creature usually depends upon the fertilization or non-fertilization of the germ cells. Among bees, the unfertilized eggs produce only males, while the fertilized eggs produce females. This virgin birth is not true repro-

duction, since without fertilization the race would quickly end. But among plant lice the reverse of this is seen, the unfertilized eggs producing females, capable at maturity of repeating the process. This is a form of parthenogenesis which constitutes complete reproduction, though it might gradually fail from a decline in life energy.

Reproduction has for its sole object the perpetuation of life. But the life force accomplished more than a purely quantitative increase in the growth of life. There was added to it a qualitative development. Here as elsewhere, however, quality is readily reducible to quantity. Quantity remained the end of nature, and quality served primarily as a means.

"With the life force pushing in all conceivable directions, as from the center toward every point on the surface of a sphere, every possible process must have been tried."

It turned out that there was one advantageous process, namely, the process or principle of cross-fertilization. Simple reproduction, by any of the modes thus far described, is mere function. It simply continues the type unchanged. To get beyond this and secure any advantageous change in the types of structure, a dynamic principle must be introduced. This principle was that of crossing the hereditary strains through fertilization.

"Sex constitutes a dynamic principle in biology, it arose in this gradual way from the advantage it afforded in securing the commingling of the ancestral elements of heredity, and its value as a device for maintaining a difference of potential is measured by the degree of completeness that it attains. . . . The true meaning of sex . . . is . . . that . . . of securing

variation and through variation the production of better and higher types of organic structure—in a word, organic evolution."

W. K. Brooks has said that "the male element is the vehicle by which new variations are added." The general fact of the union of two elements in reproduction began with simple conjugation. This may be called compound reproduction, in contrast to the various forms of reproduction that have been described. It may involve the whole organism, or only certain specialized cells. In both cases, there are always two cells that unite and coalesce to form a new being. But this conjugation does not primarily or necessarily imply any such difference in the uniting cells as is implied by the term sex. Biologists sometimes express this by saying that the two sexes were originally alike, or that primarily the sexes were not differentiated.

Where, as is often the case, one of these conjugating cells is larger and motionless, while the other is smaller and active, this differentiation may properly be called sexual. There must be some reason in the cells themselves for the act of uniting, some innate interest. The law of parsimony would naturally restrict this interest chiefly to one of the cells, and leave the other passive. The same causes created the other differences, including those of size. The result is that the male cell or sperm cell is usually a relatively minute cell possessing a form approaching that of a body of least resistance, provided with appendages allowing it to move, and endowed with an appetite which drives it actively to seek the female cell, and bury itself in its substance.

There may be said to be both a sexuality of cells, and a sexuality of organisms. The sexual method was only

gradually resorted to. It grew out of what has been called *alternation of generations*, in which a long series of sexless reproductions is followed by a resting period, followed by conjugation or some other form of fertilization, and then by a cycle of sexless reproduction again.

A creature that reproduces without sex cannot properly be called either male or female. Yet to the popular mind a creature which actually brings forth offspring out of its own body is instinctively classed as female. The female is the fertile sex, and whatever is fertile is looked upon as female. It would be absurd to regard an organism reproducing sexlessly as a male. Thus biologists speak of "mother-cells" and "daughter-cells." In all the different forms of sexless reproduction, the female may in this sense be said to exist alone, and perform all the functions of life, including reproduction. In a word, life begins as female.

The female sex, which existed from the beginning, continues unchanged; but the male, which did not exist at the beginning, appears at a certain stage, and has a certain history and development, but never becomes universal. There are probably many more living beings without it than with it, even in the present life of the globe. The male might be called a mere afterthought of nature. At first and for a long period, and still throughout many of the lower orders of beings, the male was devoted exclusively to the function for which he was created, that is, fertilization. Among millions of humble creatures the male is simply and solely a fertilizer.

The simplest type of sexuality consists in the normal continuance of the original female form, with the addition of an insignificant and inconspicuous male fertilizer, incapable of any other function. The female or germ

cell is always much larger than the male or sperm cell. In the human species, the female cell, egg, or ovum is about 3,000 times as large as the male cell, or spermatozoon. In the parasitic *Spherularia Bombi,* the female is a thousand or many thousand times the size of the male.

Darwin was the first to call attention to the fact that, among the barnacles, the female has from two to seven little pocket husbands, produced by herself, from which she selects her mate or mates. Among some of the lower forms the males have no digestive organs whatever, the visceral cavity being occupied by the testicles. So sexuality began. Among the spider family, the relatively gigantic female seizes and devours her tiny male fertilizer or mate during the process and completion of the mating. The same is true of the female mantis, or praying insect. In many species, the male insects have no equipment for eating, and do not sustain life beyond the period permitted by the nutriment stored up in the larval state. Male bees are drones, almost their only rôle being fertilization. In the lower vertebrates there are cases of female superiority. Male fishes are commonly smaller than female. Among the hawks, the female is usually the larger and finer bird. In the rat family, the sexes are usually of the same size.

Among plants the grades of sexuality are as follows: (1) hermaphroditism, with male and female organs in the same flower; (2) monecism, in which flowers are either male or female, but both occur on the same plant; (3) diecism, in which every plant is either wholly male or wholly female. Hermaphroditism seems to have been the common initial state of the flowering plants. Deviations from it seem to be the result of the universal struggle of nature to prevent self or close fertilization,

and to secure the widest possible separation of the sexes.

How does it occur that the male, primarily and normally an inconspicuous insignificant afterthought of nature, has developed greater strength and adornment than the female, in certain higher forms of life?

We found that in order to fulfill his mission the male must be endowed with an innate interest in performing his work. Nature supplied it by providing the male with an active desire. The sexual irregularities of human society are chiefly due to this fact. Society's attempts to regulate the relations of the sexes, necessary though they may be to the maintenance of the social order, interfere with the biologic principle of crossing strains and securing the maximum variation, development, and vigor of the stock. The violation of human laws relating to this class of conduct is usually in obedience to that higher law of nature commanding such conduct.

In securing the necessary variation, the sacrifice of males was a matter of complete indifference, as much so as the sacrifice of germs, because the supply was inexhaustible. Throughout the lower orders, an excess of males over females is the normal condition. That a hundred males should die without once exercising their normal faculty is of less consequence than that one female should go unfertilized. Biologic economy consists in unlimited resources coupled with the multiplication of chances.

The female is the guardian of hereditary qualities. Variation may be retrogressive, as well as progressive. It may be excessive, and lead to abnormalities. It requires regulation. The female is the balance wheel of the whole machinery. Nature says to the male: Fecundate! to the female: Discriminate! The female instinctively selects the mate that has the highest value for the race.

This quality must, of course, coincide with a subjective feeling of preference, a coincidence which is brought about by organic adaptation. It represents the dawn of the esthetic faculty. This faculty of taste wrought a revolution in life as profound as the earlier one wrought by the faculty of thinking.

The incipient esthetic tastes of the female caused her to select the qualities from among her suitors that she preferred, and to reject all males that did not come up to her standards. The qualities selected are transmitted to the offspring, and the new generation again selects and again transmits. The particular characters thus selected are called secondary sexual characteristics, and are chiefly seen in the male, the female already having the normal development. The first quality would be size. Later would come more striking and apparently abnormal facts, such as brilliant coloration, peculiar markings, special ornamental organs, weapons of destruction, and the like. Under the joint operation of the principle of selection and the law of parsimony, these are often not only confined to the male, but do not appear until the age of maturity, at which time alone they can serve the purpose for which they were selected and created, that is, to attract the female and lead to the continued selection of those males in which they are best developed. These abnormal developments of the male Ward calls male efflorescence.

Another group of qualities that determines sexual selection on the part of the female might be described as the moral qualities, such as courage. Even where the male is larger and stronger, the female still asserts her supremacy and exercises her prerogative of discrimination as sternly and pitilessly as when she far surpassed the male in these qualities. Nor do the so-called

"superior" males devote their new-gained strength to the work of protecting and feeding the female and the young. Those males with the greatest male efflorescence, such as the peacocks, male pheasants and turkeys, roosters, and male lions, buffaloes, stags, and sheep, do practically nothing for their families. The mother alone cares for the young, feeds them, defends them, and if necessary fights for them. It is the female that fights off enemies. The old hen, not the rooster, ruffles up her feathers when you approach her brood. The cock's business is with other hens that have no chickens to distract their attention from him.

The formidable weapons of the males of many animals, acquired through sexual selection, are employed exclusively in fighting other males, and never in the serious work of fighting enemies. The whole phenomena of so-called male superiority bears a certain stamp of spuriousness and sham. It is pretentious, meretricious, quixotic: a sort of make-believe, play, or sport of nature. It is male efflorescence, and not male supremacy; for throughout the animal world below man, in all the serious and essential affairs of life, the female is still supreme. There is as yet no male rule. The apparent male superiority in some birds and mammals, instead of indicating arrested development in the female, indicates over-development in the male.

When we come to primitive man we find that another of those cosmic crises to which we have called attention has occurred. The rise of the esthetic faculty in the female was one of these; the rise of the rational or reasoning faculty in man, a product of sexual selection, was another. Increased brain mass became a secondary sexual characteristic. In a broad general sense, the relations of the sexes throughout the animal kingdom

and the early history of man might be characterized as a female rule. Much evidence points to this. Widespread legends of amazonism, or female warring, and the wealth of evidence pointing to a matriarchate or mother-rule period, both establish this. And this was inevitable, because the idea of paternity, unknown to the animals, was unknown to primitive man. Fertilization and reproduction were as completely separated in thought as they have been shown to be in essence.

When it began to dawn upon primitive man that there was some casual connection between the couplings of men and women and the subsequent birth of offspring, the idea took root very slowly. Its ultimate acceptance literally reversed the whole social system. The only certain antecedent to the birth of the child was the delivery by the mother. Child birth being always accompanied by pain and incapacitation, the idea of illness became indissolubly associated with it in the primitive mind. To make an adequate claim to any proprietory title to the child, the primitive male actually had to go through this illness, which he did by feigning such illness and going to bed for the prescribed period. Tylor characterizes it as "the world-wide custom of the 'couvade,' " traces of which are found throughout the world.

The idea of joint responsibility once firmly established, important results naturally followed. Paternity implied power over the child, which was now exercised by the father as well as by the mother. Equal authority with the mother soon led to a comparison of physical strength between the sexes, something never before done, since physical strength never came in question in the mother rule state. The virtue of the female animal is absolute, for virtue does not consist in refusal, but in selection. It is

refusal of the unfit and of all at improper times and places. This definition of virtue applies to human beings, even the most civilized. Woman, who had had absolute virtue that is, power of selection up to this time, lost it. Now commenced the centuries of man-rule and the subjection of women, the darkest page in the history of life. Man's conduct to woman was not brutal; for no brute mistreats his female. The abuse of females by males is an exclusively human virtue.

Evidence from all over the world multiplies, of living races where women are treated as unloved possessions. Certain marriage ceremonies establish this, as, for example, the New Zealand ritual, where the father or brother says, "If you are not satisfied with her, sell her, kill her, eat her, you are absolute master of her." The word *family* originally meant the servants or slaves. When man-rule came in, the women were enslaved, and both women and children became the chattels of the men. Primitive man-ruled society was formed of patriarchal polygamous families and unwed men, the weaker of whom may also have been made slaves. The origin of the family was simply an instrument for the completer enslavement of wife and children.

Primitive marriage consisted in selling a woman to her owner. All early forms of marriage ignore the wishes of the woman entirely. In Homer's day, wife-purchase was the preliminary to marriage. Roman marriage was a contract of servitude. Slowly *the group sentiment of safety* altered this. One of the principal consequences of the era of war, conquest and race amalgamation was the introduction of a system of marriage by rape. It was based on the unconscious, but universal sense of the advantage of crossing strains, reinforced by the charm of sexual novelty. The philosophy of rape

as an ethnological phenomenon may be summed up as follows:

(1) The women of any race will freely accept men of a race which they regard as higher than their own.

(2) The women of any race will vehemently reject the men of a race which they regard as lower than their own.

(3) The men of any race will greatly prefer the women of a race whom they regard as higher than their own.

Both the activities of the raping male, and of the outraged lynching crowd, follow obvious sociological laws.

(4) The men of any race, in default of women of a higher race, will be content with women of a lower race.

In most racial mixtures, the fathers almost always belong to the higher, and the mothers to the lower component race.

Male sexual selection naturally followed upon man-rule. Perhaps, on the whole, it has been beneficial in securing increased physical perfection of the race, primarily of the women, but also in some degree of the men. The psychological effect of man-rule on our culture has been widespread. It accounts for the virulence of early Christian indictments of women; for the Hebrew myth of the creation of woman from man's rib. The legal, political, economic, educational and industrial suppression of women which has been going on since an early age of the human race accounts for the evidence which is always given in support of the man-centered theory. The tendency today is toward woman's restoration to at least an equal rule beside man. In any country the treatment of women is a true measure of the degree of civilization. It is also a true measure of

the intensity of the androcentric (man-centered) sentiment prevailing in any country.

The phylogenetic forces may be summed up in the word *love*. They may be classified as follows: (1) natural love; (2) romantic love; (3) conjugal love; (4) maternal love; (5) kinship love. The power of natural love can hardly be exaggerated. The social group may become extinct when through amorous excesses natural love is carried beyond the function (reproduction) for which it was created. Natural love is pure and noble, in spite of the odium misled man has heaped upon it. Sexual satisfaction is a social necessity. It is essentially a social bond; the primary association is necessarily sexual.

Romantic love was due primarily to the greater equality and independence of woman. It is unknown to savages; it was practically unknown to the classic cultures. It first manifested itself in the eleventh century of the Christian era, and was closely connected with the origin of chivalry under the feudal system. The constant and prolonged absence of the lords and knights left the women practically in charge of affairs and conferred upon them a dignity and power which they had never before possessed. In addition, the separation of most of the men for such long periods, coupled with the sense of honor that their knighthood and military career gave rise to, caused them to assume the rôle of applicants for the favor of the women. Romantic love marks the first step toward woman's resumption of her natural scepter which she had yielded to the greater physical force of the man at the beginning of the man-rule period. It involves a selection on both sides. It is a curious fact that there is always a touch of the illicit in the romances of great geniuses. One of the

chief objects of the romantic literature of the world is to emphasize the fact that love is a higher law, that will and should prevail over the laws of men and the conventions of society. It is thus in harmony with the teachings of biology and with those of a sound sociology.

Conjugal love, the love of a man for his wife and of a woman for her husband, differs entirely from romantic love. Though in a certain way it grows out of it, it retains none of the elements of romantic love, and contains other elements. Only philosophical natures can find it; others are swamped in a sea of boredom and monotony. It is also unfortunate that at times the objects of romantic love and conjugal love are two different persons. The biological imperative drives toward romantic love; the social imperative, toward conjugal. The biological imperative knows nothing of the permanency of matings, Monogamic life, to be successful, requires a certain amount of philosophy. At least, it requires character. The human race is growing more and more monogamic. Conjugal love is a social force even more efficient than natural or romantic love. For the man the stimulus of providing for the family is probably the most productive of all stimuli. From marriage until death it continues to impel activities of usefulness and social value. The mental conditions attending conjugal love are the best possible for human achievement, and this is the supreme test of social efficiency. Of all the love forces, conjugal love seems to be the one that has contributed the most to human achievement.

Maternal love is common to all mammals, and is directly connected with the suckling of the young. It is an essentially conservative principle, but such principles

are as useful to society as are the active and constructive ones. As a social force it has only operated in the main negatively; but in certain instances it has shown its immense power.

The love of kindred is probably an exclusively human attribute. It grows out of the kinship bond of the horde, and grows to constitute the blood bond that is so strong in a related group. Jealousy is the opposite of natural, romantic, and conjugal love; race hatred, of kindred love. It has always been and continues to be the principal cause of war. This makes it one of the prime factors of social progress, for without it there could never have been that series of social phenomena, resulting, first, in such social structures as law, the state, the people, the nation, and second, in the most important social advances due to the cross fertilization of cultures.

THE SOCIOGENETIC OR NON-ESSENTIAL FORCES. The non-essential social forces, which are the chief socializing and civilizing impulses of mankind, are: (1) the moral forces; (2) the esthetic forces; (3) the intellectual forces.

Considered from the standpoint of its origin, morality is of two kinds: *race morality* and *individual morality*. The "instinct of race safety" arose under the influence of the collective or group reason, to offset the tendency to waywardness that individual reason had so greatly increased, and which instinct no longer prevented. This has been called the social imperative, or primal germ out of which were subsequently differentiated nearly all important human institutions—religion, law, government, custom, etc. This form of morality operates entirely in the interest of function and against all conflicting claims of feeling. It seems therefore to be the

precise opposite of the currently accepted morality, which is based wholly on feeling. In race morality man simply assists nature, or becomes an integral part of the natural forces that make for race preservation.

Race morality, therefore, consists essentially in custom. If the customs of the world are studied, the majority of them will be found to consist in restraints to conduct harmful to race safety. Religion is little more than the addition of supernatural penalties for the violation of the laws of race safety. The current moral teaching or moral philosophy is essentially a morality of restraint, and is undoubtedly a survival of primitive race morality, although its teachers do not know this. Most of its precepts are negative or prohibitory. It is based on a deep-seated sense of the danger of over-indulging the passions. The effect of the action upon individuals, from this standpoint, has nothing to do with its rightness or wrongness. The bottom of it all is the effect on the safety of the human race. "Duty" is simply conduct favorable to race safety. Virtue is an attitude of life and character consistent with the preservation and continuance of man on earth. Vice is the reverse of this, and is felt as an attack upon the race. These sentiments are difficult to analyze, and the moral reformer seldom or never knows that this is what he feels when he preaches morality. He thinks that moral conduct is pleasing to God, and regards this as the real sanction, regardless of its effects. That the morality of restraint is a survival of primitive race morality is the only view consistent with its defense, for most of it tends to diminish the amount of enjoyment, instead of tending to increase it. It may be that today it is only a social vestige, and as such has a somewhat diseased character.

Individual morality is based on altruism. Human

altruism, insofar as it is not biological is based on sympathy, on the power of *representing* the psychic state of others to oneself. While sympathy is based on intellectual reasoning, it is a true feeling. Altruism is an essentially socializing force. And yet it is more than sympathy: for whereas sympathy is a feeling, altruism is a desire as well. Since it involves at least two persons, it is essentially social. It grows directly out of love of kindred, and by slow degrees has expanded until it includes love of country, and, in wider stages, love of mankind and of all the manifestations of the universe. Philanthropy is one manifestation of altruism, and a step above it is humanitarianism, which seeks to reorganize society so that the minimum pain and the maximum enjoyment may be insured. Its aim is *meliorism*. In its most advanced form it does not recommend measures, but devotes itself to the propagation of ideas, and especially to the diffusion of those forms of knowledge which, universally shared, will spontaneously and automatically work all needed and all possible reform.

All sexual selection, as we have seen, is based on the esthetic or beauty-seeking faculty. It has passed through three stages: the receptive, the imaginative, and the creative. The first of these is passive; the other two, active. Between the receptive and the imaginative stages there is another psychic faculty—*imitation*. It is the natural and necessary prelude and condition to imagination, which is probably an exclusively human attribute. The faculty of imitation is faint or wanting in many mammals, but appears in its fullest development in the apes.

The creative stage in the development of the esthetic faculty is that in which ideals are embodied in visible

form, so as to be cognizable by others besides the one who imagines them. It is *art*. With art, the esthetic faculty becomes a social force, and begins to exert its influence upon social structures. Ideals are realized, and become esthetic creations. Such creations are among the most important of human achievements. It is an agency of civilization, as distinguished from preservation and perpetuation. It is a *spiritual necessity*. The esthetic sentiment is an end in itself. Its satisfaction becomes one of the ends of the feeling creature. The peculiarity of art is that it *creates desire in order to satisfy it*.

The mind has an interest chiefly in three things: (1) to acquire knowledge; (2) to discover truth; (3) to impart information. The first of these three is probably the most intense, and partakes more of the nature of a true appetite than either of the others. It is most prominent in the young, but may continue through life. Many young people at a certain stage in their mental and physical development, usually for some years after the age of puberty, literally hunger for knowledge, and devour everything that comes their way. At first they consume everything, and are bent on storing their minds with everything they did not know before. Later on, they begin to discriminate, and many almost self-educated men have succeeded in organizing their knowledge to good advantage. But systematic guidance is almost essential to any real success.

After the mind has become stored with knowledge, the time arrives when it begins to work upon its own materials. It is a strictly creative process and consists in sorting out the identities and discovering the relations of stored impressions. Something new results, different from any of the separate items that had been

acquired during the receptive period. If the original knowledge acquired by the senses or through reading or listening to others be called *fact,* this new kind of knowledge may be called *truth.*

The combining of truths to find new truths is as legitimate a process of the mind as the combining of facts to form truths. This process of recompounding, or compound aggregation, which underlies all creative synthesis, when it reaches the intellectual plane is called *generalization.* This constitutes the best measure of intellectual power.

Generalization is inspiration. A new truth evolved from the stored facts and truths of the mind often appears to come suddenly into view. Some of the greatest generalizations have seemed to burst upon the minds of their discoverers at a definite moment. This is the constructive quality of the intellect, the most important of all the faculties, and probably, when comprehended in all its length and breadth, the one that has achieved the most, and contributed the largest additions to the general fact which is commonly understood as civilization.

There remains to be considered the reproductive aspect of the mind, that is, the interest it has in conveying its acquisitions and constructions to other minds. The developed human intellect is essentially altruistic. It delights in sharing its possessions with others. The desire to communicate the information stored in the mind takes various forms. The teacher's profession may be chosen, or a professional chair in some institution may be sought and obtained. More rarely public lecturing is resorted to. But when all these means fail there always remains one other, namely, authorship. The history of ideas, of science, and of human achievement in general, shows that the greatest sacrifices have been con-

tinually made in order to propagate thought, to diffuse knowledge, to promulgate truth, and to advance science. Such employments are rarely remunerative, and are sometimes pursued in the face of poverty and want. This intellectual altruism is preëminently social, and its results are socializing.

No one of the three forms of interest that we have considered exists in the mind of the savage. He has no appetite for knowledge. Savages lack even curiosity or wonder, the lowest form of this desire. Man acquired these faculties through the opportunities granted to the leisure class. About eight centuries ago, a great levelling up process began among mankind, greatly accelerated two centuries ago, and becoming almost universal from 1850 onward. Class distinctions have been largely broken down, and the qualities, physical and mental, of the higher types of men have been transfused throughout all classes. It is costing the world something to assimilate such a mass, and to some there may be a lowering of the tone of former days; but the process on the whole has been beneficial.

This may be explained by the principle uttered by Helvetius, that all men are intellectually equal in the sense that, in persons taken at random from different social classes the chances for talent or ability are the same for each class. This refers only to *capacity for development*, and not to the actual state of development at any given time.

The sociological perspective is the understanding that there has, after all, been social evolution. A few centuries ago, the same races that have produced Laplace, Goethe, Newton, Darwin, Einstein, and Freud, occupying nearly the same territory, were warlike barbarians living in tents and fighting with bows and arrows and

spears. There seems small reason for questioning social evolution in these races. Even history illustrates the same thing. Scarcely any of the shocking acts, such as murders, massacres, etc., which blacken almost every page of the history of every country, would be even possible today in any country. The diminution in capital punishment is one measure of our advance. Under Henry the Eighth, England saw 5,000 executions a year. Under Elizabeth, the number was reduced to 2,000 a year. During the reign of Victoria, the number fluctuated between 10 and 38 a year. The gradual emancipation of women, the progress of certain arts, and most of all the intellectual progress, may be said to decide the argument in favor of the reality of social evolution.

TELESIS, OR CONSCIOUS PROGRESS. The directive agent, the intellect, resides exclusively in the objective faculties. Sensations are found to be of two classes: *intensive,* and *indifferent.* It is the indifferent sensations which have given birth to the entire objective and intellectual department of mind. Impressions give rise to sensations; these, in turn, to perceptions. Perception is the first objective step in the psychologic process. When similar percepts are united by the mind, we have a concept. The next step is to compare percepts and concepts, and detect likenesses and differences. This process is sometimes called judgment, while the more complex form of this mental exploration receive the name of *ideation,* the products being ideas, which are real creations of the mind.

The two great agents or agencies of society are the dynamic and the directive. As we have seen, the restraint and control of social energy is the only condition to social evolution. All true forces are in themselves

essentially centrifugal and destructive. There are two ways in which the social energy has been controlled, the first an unconscious process similar to organic evolution, the other conscious, and wholly unlike the first. It is this method which we will now consider. The unconscious method produced all the fundamental social structures or human institutions; and by the operation of certain dynamic forces these structures were enabled to change and social progress was made possible. It only required the addition of the purposive or directive agent, the intellect, to make possible all the higher steps that have been taken in practically the same direction.

This directive agent has been constantly on the scene since the dawn of manhood. It has been the distinguishing characteristic of man, and the condition precedent to every event that typifies the human race, and makes man more than simply another animal on the face of the globe. At first, this agent was exclusively egoistic, and so completely a servant of the dynamic agent or human will, that it did little more than to heighten and strengthen man's fierce passions. Sometimes, as in the subjection of women, its effect for a time was retrogressive.

Purposive phenomena may be called artificial, as distinguished from natural in the genetic sense. For all art is purposive. The directive agent is a final cause. Genetic, or growth, phenomena are produced by efficient causes only. Efficient causes act only on objects near at hand, no matter how complicated the interaction of the efficient forces may be. A final cause is always more or less remote from its effect or end. Neither the directive agent nor a final cause is a force. No less than three things are embraced in the idea of a final cause. The end is seen, that is, known, by the mind. Some

natural property or force is also known to exist, and its action upon the material thing to be moved is understood. This force or property is a means to the end, and it is only necessary to adjust the body to be moved, in such a manner that the known natural force will impel it to the perceived end. This adjustment is usually accomplished by the exercise of muscular force of the agent, in obedience to his will. Both the natural force and the muscular force are efficient causes, and all the motion is the result of these two forces. The final cause therefore consists essentially in the knowledge of the purposive agent of the nature of the natural force and the relations existing between the subject, the object, the force, and the end. The three steps are: knowledge, adjustment, natural force.

In efficient causes, the effect is always exactly equal to the cause. In final causes, the effect is usually wholly out of proportion to the cause, if by cause we here mean the personal effort put forth. A final cause may represent any amount of natural force that the intellect of man can reduce to his service. It is practically unlimited. When we consider the gigantic strides in this direction taken in the last two centuries, we dare not attempt to peer into the future. We may truly say, surveying this progress, that thought is the sum of all forces.

The method of mind is the precise opposite of the method of nature. The method of nature, with unlimited resources, is to produce an enormous oversupply, and trust the environment to select the best. This is in the highest degree wasteful. It is a method of trial and error. Nature aims only at success, and success is secured through the infinite multiplication of chances. Lifeless and organic phenomena obey the same uneco-

nomical laws, and thus are thrust into existence all the strange and hideous denizens of the earth—vermin of all horrid shapes, toads, lizards, monsters of sea and land. All these are only a few "favored" forms wrought at enormous expense and involving infinite sacrifice of life and energy. The economy of nature is simply an absence of all economy.

The only true economy is purposive. Only mind knows how to economize. Mind sees the end, and pursues it. Not directly or in a straight line, for indirection is of its essence. But it pursues it effectively. Purposive phenomena are far more rapid than growth phenomena. Compared with the life history of the horse's hoof, how brief is the life history of the factory, the steamship, the railroad, the telegraph, the telephone, the automobile, the airplane, the radio!

Knowledge in the mind does not constitute feeling; but it gives rise to feelings, which may be most powerful. A telegram announcing the death of a child stirs a father's soul to its very depths, and he acts instantly according to the circumstances. Such feelings, inspired by knowledge, are *idea forces.*

The intellect is primarily an advantageous faculty, and came into existence through the action of natural selection, or the survival of the fittest in the struggle for existence. It is hence of biologic origin. This will be treated at length in the third section of this study.

Most students of the mind have confined themselves to the non-advantageous faculties of the human intellect. That is, these faculties do not contribute to better nutrition, to physical protection, or to more certain propagation. They may be summed up under the comprehensive term *genius.* The distinguishing characteristic of genius is that it does not have preservation or repro-

duction for its end, but is, we may say, an end in itself. Its motive is a socializing force. It may be a moral force, and it is to some extent an esthetic force, but it is chiefly an intellectual force. When we reach the stage of genius, the brain has become an emotional center; and we have already discovered that the appetites, wants, and feelings of the intellect constitute motives of great strength.

Invention in its later stages becomes subjective, and takes the form of genius. The pursuit of utilities, as such, that is, as a means of obtaining personal ends, soon began to constitute an independent stimulus, and the search for utilities became a pleasurable occupation. This caused the inventor to lose sight, temporarily at least, of the practical end, and to yield wholly to the spur of anticipated success residing in his own mind. When invention reached this stage it became genius, and henceforward it existed for its own sake. It becomes a passion, and is often pursued at a sacrifice of other pleasures and satisfactions. This accounts for the fact that many of our greatest inventors have been in poverty-stricken circumstances, and almost forgetful of their personal necessities.

It is perhaps more difficult to account for creative than for inventive genius. And yet, it was a natural outgrowth of the esthetic faculty. It came from a want, and a somewhat imperative one, even among primitive men. The religious sentiment, so epidemic in early eras, was favorable to the development of creative art. "Ecclesiastical institutions" gave rise to a demand for temples, decorations, and a variety of art products, which gave an egotistic bent to creative work. This would give a utility to creative products, and they would be in the same position as early inventive products. Art at

length grew to be better recognized as a passion than invention. It became a consuming passion in the end.

The philosophic genius is the faculty that has mainly engaged the attention of students of the mind. Obviously, the capacity to form ideal conceptions of space and time, of eternity and infinity, and for abstract notions of form and number which render geometry and arithmetic possible, cannot be accounted for on the principle of natural selection. Yet the purposive faculty, out of which these grew, can clearly be accounted for on the principle of natural selection. The non-advantageous faculties came chiefly from two of the three great dynamic principles: cross-fertilization and innovation. But primarily they are the result of continuous brain development, due to these and other causes. The developed brain, interested in its own operations, proceeds to invent, create, and cogitate everything that it has the capacity for.

An intellectual quality, talent, or faculty, a psychic structure based upon an organic structure of the brain, must be advantageous at the start, and common to all the members of a species, to insure its original creation. Thereafter, any and all of these faculties may vary in any given direction, and grow into wholly non-advantageous faculties, provided they do not become positively disadvantageous, in the sense of endangering the existence of the race. There are analogies among organic structures, the more extravagant secondary sexual characteristics, such as the antlers of an elk, being among the best examples.

Certain social structures illustrate the same thing. Religion must have been primarily an advantageous social structure, otherwise it could not have come into existence.

"Probably most religions now are somewhat disadvantageous. Certainly the adherents of any religion would admit this of all the rest, and even exaggerate their disadvantageousness."

Philosophy began as speculation. Facts or supposed facts of course lay at its base. Perceptions, conceptions, and ideas were in the minds of those early speculators, but they were little controlled, and imagination was scarcely differentiated from observation. The body of primitive speculation was confined to two great fields—the phenomena of the mind and the phenomena of the world. The first was sterile, until cross-fertilized by the germs of objective science, and metaphysics was converted into psychology. The second study was fruitful from the start, and all that we know of the universe, including mind, has resulted from it.

Ward did not make a fourth division of the non-advantageous faculties, and did not call the application of thought to things *scientific genius*, because this is, in its nature, not different from philosophic genius. The only difference is in the increased data, involving a more exact and systematic method. Science proper consists in reasoning about facts, not in the accumulation of facts; but the ability to reason soundly depends upon the possession of the facts about which to reason. Both reasoning and facts are essential to scientific truth.

Equipped with the intellect as a guide to the will, that "favored race" of beings called man set out on a career for the conquest of nature. Throughout his whole animal existence, like the rest of the animal world, this being had always been the slave of nature. His was a struggle for existence like the rest; but he proved himself the fittest to survive, and he survived. By a series of accidents, some of which have been recorded in this

study, the development of the brain found in him its highest expression. He early saw the advantage of association, and secured the added benefit of the law of the survival of the social.

Invention is strictly human. The making of tools or of means of defense against wild animals was without doubt the first step taken by man in the domain of intellect. The discovery of fire came later. Sticks and stones were his first tools, and were gradually, with infinite slowness, shaped into diggers, clubs, spears, boomerangs, throwing-sticks, shields, paddles. After fire came pottery, a slow improvement of primitive uses of clay in cooking. Glass grew naturally from pottery. The plow grew out of the digger; the primitive plow lacked a mold-board, and did not throw a furrow to one side, but merely scratched the ground. There followed metal working, cloth-making, the making of wines, oils, and intoxicants. An alphabet and the art of writing on papyrus or something more manageable than stone was one of the great steps in civilization. Time was kept at first by the sun-dial. The ancients knew steam, but did not know how to harness it.

The stream of human thought, intelligence and inventive power moved westward from southern Asia to Chaldea, Egypt, Asia Minor, Greece, Italy, and then slowly from the Mediterranean shore northward to western and northern Europe. There were fifteen hundred years of apparent intellectual stagnation, caused by the necessity for the assimilation of the Teutonic barbarians by the Mediterranean cultures. The middle of the fifteenth century marks the beginning of the modern era. The invention and practically application of the art of printing was the turning point, but a long train of other, often apparently independent inventions and

discoveries, quickly followed. There followed oil painting, engraving on copper, and, later, the telescope, microscope, thermometer, and camera obscura. Another century improved clocks and watches by adding the spring. A bolting machine for flour was invented. Forks were invented. And all this in the sixteenth century!

The steam engine, in the modern sense, was a child of the seventeenth century. The same era gave birth to the air-pump, the barometer, and Pascal's invention of the wheelbarrow. The next century added the loom and the spinning jenny, as well as the real beginning of the modern factory. The nineteenth century gave us the telegraph, the steamship, the railway, the applications of electricity, illuminating gas, matches, India rubber, gun-cotton, the sewing machine, the ocean cable, the bicycle, the automobile, the X-ray, the radio. And the twentieth century is moving ahead even more swiftly.

Invention and discovery are reciprocal. Each leads to the other. The roots of the sciences, especially of the sciences dealing with lifeless matter—astronomy, chemistry, and physics—go far back into the classical cultures, and beyond them to Chaldean, Chinese, and Egyptian times. India gave us the decimal system of notation, the so-called Arabic numerals. The thinkers of Greece discovered scientific truths so comprehensive, that about all we of the past five centuries have accomplished has been to prove and "establish" the truths that they taught. They taught the atomic theory and the heliocentric system; they were aware of the conservations of energy, the nature of electricity, and the fact of a universal struggle for existence; they discovered the power of steam, the whole science of geometry, the law of specific gravity, and the principle of the lever and

fulcrum; they laid the foundations of natural history, and of the fundamental principles of psychology and sociology. We must omit all mention of the magnificent Greek productions in the field of the arts, for here we are dealing with man's conquest of nature.

The first fourteen centuries of the Christian era offer little in the way of scientific discovery. The middle ages awoke with Copernicus's revival of the pagan theory of the solar system. The modern science of anatomy was founded by Vesalius, in a work published in 1543. Before the end of the century, Gilbert's investigations into the true properties of magnets had been concluded. The laws of the pendulum, the science of analytical geometry, the circulation of the blood, the ether, all these developed about this time. The seventeenth century gave us the conception of the ether and the law of gravitation. The eighteenth century gave us the explanation of the true nature of heat, electricity and light, and their properties. Other great discoveries of this century were the nebular hypothesis, the discovery of oxygen, nitrogen, sodium potassium, iodine, and the true nature of combustion. There was also good progress in biology. The nineteenth century saw scientific progress that exceeded all that had gone before. The most important of all the generalizations of the human intellect, the law of evolution, was a fruit of this century.

The classification of the functions of society into regulative and operative is fundamental. The state is a regulative system worked out by society by a perfectly natural, evolutionary process. Its basis is law. Wealth is only possible under the state. While the state itself achieves little, it is the condition to nearly all achievement. The state was the most important step taken by man in the direction of controlling the social forces.

It has been said that the state achieves little. It would have been more correct to say that society, in its collective capacity, does not take a direct part in the operations that have been listed under the head of achievement. The mastery of physical forces, invention and scientific discovery, have been primarily the work of the individual. The achievement of the state has been a certain conquest of man, the gaining of a greater and greater mastery of the social forces, primarily of their antisocial effects, all in the interest of social safety.

On the whole, society has succeeded in its task of restraining man's natural turbulence. The domain of purely social action was at first very limited. Even the punishment of crime against the individuals was not a duty of the state until after the fall of the feudal system. The only crimes considered by the state were crimes against the state. Revenues were once extensively farmed out to private persons, and the finances of nations were largely in the hands of individual financiers. Representative government has taught the people how to gain collectively the power which they could never again individually possess. Collective lawmaking, collective execution of the laws, collective control of foreign relationships, governmental control of most railways, as well as occasional appearances of government ownership or management of steamships, bakeries, lodging houses, trolley car lines, waterworks, gasworks, and many other forms of capital, slowly came in. No community which has ever once municipalized any public service has ever retraced its step, or reversed its action.

Now and then the steady march of collectivism receives a temporary check. But this does not disturb, it only steadies, the general trend in that direction. New Zealand and Australia have taken the longest strides in

this direction; America is slowly falling into line. This growth of collectivism has meant a gradual conquest of the forces of individualism, which were in supreme control when the movement started. A careful study of this movement indicates that man is as easily managed by intelligence as nature has been shown to be. While mandatory, prohibitory, and punishing legislation has been found to be unsuccessful, attractive legislation is increasingly growing in favor, in enlightened states.

One by one the great achievements of the individual intellect become socialized, through collective action. It is gradually being recognized that society at large, and all mankind from the highest to the lowest, are entitled to profit by the brilliant achievements of the élite of mankind.

Human achievement consists essentially in knowledge. The products perish, but the knowledge insures their unlimited reproduction and multiplication. Complete social appropriation of this knowledge will never take place, until the mass of mankind shall possess not merely the benefits of achievement, but the knowledge itself. Only a limited few have had this, so far. But the tendency to spread this knowledge among all mankind is constantly growing. All the leading countries of the world are now extending it to the masses. The action of society in inaugurating and carrying on a great educational system, however defective we may consider that system to be, is undoubtedly the most promising form yet taken by collective achievement. It means much even now. But, for the future, it means nothing less than the complete social appropriation of the individual achievement which has civilized the world. It is the crowning act in the long list of acts that constitute the socialization of achievement.

CHAPTER III

THE PSYCHIC FACTORS OF CIVILIZATION

THE FEELINGS AS THE SOCIAL FORCES. There are two great types of philosophy, those which seek to answer *where* men are, and those dealing with *what* men are. The former deal with the nature of the world and the universe, the latter with the mind of man. The study of the universe may properly be called cosmology; that of the mind, psychology. During the last hundred years, due to the ushering in of the scientific epoch, both of these great branches of philosophy have undergone an almost complete revolution. This has been due to vastly increased data; to the inductive or scientific method of inquiry; and to a change in the spirit of inquiry, which has now become a search for objective truth, but which formerly centered in a search for faults in the reasoning. The result of this revolution, in the case of psychologic philosophy has been twofold. The normal advance has culminated in the science of psychology, and also in the true science of sociology.

Early philosophers concerned themselves only with a study of mind, completely neglecting all investigation of their powers of tasting, smelling, feeling, hearing, and seeing the objects around them. It is only in modern times that the dual nature of mind, that is, its division into sense and intellect, began to be perceived. The connection between these two has not yet been carefully

studied. It will be the purpose of these pages to show the natural relations between them, and the connection of the intellect with the will on one side and the soul on the other.

When the tip of the finger is placed against any material object, two results follow. There is produced a *sensation,* depending upon the nature of the object; and there is conveyed to the mind a *notion* of its nature. The sensation and the notion are not one and the same, but are two distinct things, capable of being contemplated separately. If the object be neither too hot nor too cold, and does not penetrate the tissues nor derange the part of the finger in contact with it, by any caustic property, the sensation will be what may be called *indifferent,* that is, it will be neither painful nor pleasurable. It is possible to fix the mind on this sensation, while partially or wholly excluding the notion it conveys to the mind. On the other hand, in such a case one may, and usually does, ignore the sensation, and fix the attention more or less exclusively upon the notion produced by the object. It is this notion which affords the mind a knowledge of the nature of the object. The process by which the notion or knowledge is produced is called *perception.*

The sensation resides wholly in the organism, or subject experimenting, and may be called *subjective.* The perception relates exclusively to the object whose nature it reveals, and may be called *objective.* This first step in the psychologic process furnishes, therefore, the basis or primary element of both the subjective and the objective branches of mind study.

The sense of feeling was chosen to illustrate this distinction, because it displays both parts of the process to better advantage than any of the other four senses. The

sense of taste, for instance, gives rise to sensations of pleasure or of pain, sending the nutriment pleasurably toward the stomach, or rejecting nauseous substances; but it gives no more idea of the nature of an insoluble substance than one would obtain by placing it upon the back of one's hand. The sense of smell is also largely subjective. The location of the olfactory nerve withdraws it from contact with ordinary substances; liquids or solids introduced against it usually give a sensation of pain, by threatening to injure the delicate tissues of the nerves. While there is some uncertainty as to what produces odor, it has recently been suggested that only certain gases are capable of affecting the olfactory nerve, to produce the sensation of an odor.

Hearing is a long way toward the objective. Unless the vibrations of a sound are so violent as to produce pain, there is practically no sensation. On the other hand, a very definite idea of the nature of the object emitting the sound is produced: not of its form or texture, but of its sound-producing properties. Because of this objective capability, the sense of hearing is one of the great avenues of conveying knowledge to the mind. At the extreme objective end of the process we find sight. Unless the light is so brilliant as to mechanically injure the optic nerve, it is impossible to detect any sensation in the act of seeing. But, of all the senses, this one gives the most complete notion of the object.

With regard to the material vehicle of the five senses, we may say that taste requires a liquid; smell, a gas; touch, a solid; hearing, a gas (the atmosphere), and sight an ethereal medium (the universal ether). The order, in passing from the subjective to the objective pole, is: (1) taste; (2) smell; (3) touch; (4) hearing; (5) sight.

Subjective psychology deals exclusively with sensations and their various combinations. It takes no account of intellectual processes. The simplest sensations are those which are neither painful nor pleasurable, but indifferent. Subjective psychology has little to do with them. Its chief object is to explain the nature and importance of the two other classes of sensations, painful and pleasurable, which may be grouped together, in contrast to indifferent ones, called *intensive* sensations.

The only senses that afford intensive sensations directly are taste, smell, and touch. Objects brought into contact with the nerves of any of these senses may give pain or pleasure sensations. Where sounds too loud or light too bright come in contact with our ear or eye, it is not hearing or sight, but feeling that is involved. Feeling is preëminently the pain sense, few objects being capable of producing pleasure by direct contact. Taste and smell, on the contrary, are more especially pleasure senses, although there are many bitter, sour and nauseous objects and offensive odors.

The pains and pleasures yielded by sounds and colors are not direct and original, but indirect and derivative. The pain caused by burning the hand is felt in the part affected. The pleasure afforded by food or fragrance is felt in the organs of taste and smell themselves. But the pleasing effect of a tune is not felt in the ear; it is experienced, as is usually said, by the mind. The enjoyment of a landscape is not localized in the eye; it is a diffused sense of the whole psychic organism. These latter two classes of feelings are properly called *emotional.*

Emotions may be called secondary sensations, that is, sensations not produced directly by the object through contact with the nerve, but reflected from the brain

along special nerve fibers to certain specialized emotional nerve ganglia within the organism. The emotional sense would stand first among the subjective senses, since it yields no perception whatever. Even taste and smell yield some knowledge of the objects; the emotional sense furnishes the mind with no knowledge whatever of the object producing the emotion. It furnishes sensation only.

Sensations may be roughly classed as *external* and *internal.* The nerves of taste, smell, hearing, and sight are internal, but not so much so that the medium through which they are reached does not actually penetrate to them from without and act directly upon them. The emotions have no medium except the nerve currents themselves, and they are essentially internal.

Objective psychology in its properly limited sense deals exclusively with perceptions and their elaboration by the brain into conceptions and judgments. The formula by which a judgment is expressed is called a proposition; if it be correct, it is called a truth. Above these are ideas and generalizations, a process which may be carried on until all things are embraced in the ultimate generalization. Reason is the faculty by which the mind reaches conclusions. Memory is the general condition to the whole process, and consists in the fact that perceptions, conceptions, judgments, and ideas are more or less permanently registered, and may be called upon as occasion demands. Imagination cannot transcend experience. Its materials must have been previously stored up for use. Most of the old writers on psychology stopped at this point in their study of the intellectual process, and omitted an element which is historically the primary intellectual process, and is at the same time practically the most important of all intellectual processes. This may

be called *intuition*. The power of carrying on this mental activity may be called the *intuitive faculty*. Other writers on the mind identified this with sagacity or cunning, which, whether displayed by animals or men, they considered to be a low element.

Impressions strong enough to cause intensive sensations are carried to the brain along the *afferent* nerves, and are reflected back, along a different set of nerves—the *efferent* nerves—to the muscles connected with the organ impressed. The function of these latter nerves is to cause the appropriate muscles to contract, and the organ to move. Hence they are called motor nerves. The reason why the motor nerves act only in response to the intensive sensations is clear. The movements produced are not irregular and aimless, but have a definite character and purpose. They always take place away from a pain-producing object, and toward a pleasure-producing object. Even such processes as the circulation of the blood, digestion, and breathing, which are not referred back to the brain or general organ of consciousness, are faintly connected with this organ, and faintly register their activity on it: for it can be nothing else than this that constitutes the enjoyment of health.

There is a different class of actions, arising out of the chain from perception to thought, the organs of which have nerves connecting them with the muscular system. Along these nerves occurs a motor discharge, producing muscular activities which are the legitimate ends for which the ideas were formed. The resultant actions are those commonly understood as rational actions. All others are the simple animal impulses, with which the reason has nothing to do. These rational actions originate in the intellect. They are less vivid and strong, but are more persistent and enduring. They result from

what is called *conviction*, and where judgments and conclusions are objectively true, they are successful in their results. If error is involved, they fail; and history and experience prove that error is nearly or quite as common as truth.

In thus treating of the striving faculty, Ward omits the use of the term *will*. Will is merely a popular phrasing of the psychological fact that this, that, or the other impulse actually did prevail, because it was stronger than all the others.

Neither pleasure nor pain exists essentially or in the nature of things. Pleasure and pain are the conditions to the existence of plastic organisms. Feeling is the mode of protection provided by nature for plastic organisms, such as most animals; and feeling must be supposed to consist of pleasure and pain. Without the sense of pain, the hostile environment would close in immediately upon the sentient organism, and destroy it. Pain is in and of itself evil—the only evil. Yet it is the sole guaranty of life itself, and hence science must hold it good. Plastic organisms are perpetually consuming their tissue through growth and in the vital process of existence. This consumption must be incessantly supplied from without. The replenishing of wasted tissue is nutrition, and to insure nutrition some inducement must be provided for the performance of the acts that will accomplish it. No other motive than that of agreeable sensation can be conceived. Finally, in most of the higher organisms, the procreative pleasure has been added, to prevent such races of beings from perishing from lack of renewal.

Pleasure and pain are not opposites; they are practically independent of each other. The opposite to pleasure is the absence of pleasure; the opposite to pain is

relief from pain. Nor is pleasure positive, and pain negative. Both are positive, and very unlike. The principle that pain leads to death and pleasure to life, that the pleasurable is the good and the painful the bad, that the duty of life is to seek pleasure and avoid pain, rests upon a fundamental truth of organic development, and reflects the simplest dictates of common sense.

The word *soul*, like the word *will*, is popular, and not scientific. Ward prefers to retain the word, and defines it as *the collective feelings of organic beings and their resultant efforts*. The birth of the soul was the dawn of the psychic faculty. It is the power behind the throne of reason, in the evolution of man.

Where sensations are at all remote, the resultant movement may be in whole or in part prevented. If food or drink be seen at a distance, time is required to reach it, and should obstacles intervene, the movement may be brought to rest. If danger is reported by sound, and flight impeded by confinement or chains, motion does not result. Nevertheless the sensation thus produced exists and the state of consciousness endures for a longer or shorter period. This state of consciousness is a *desire* either to approach or to retreat.

Desire presupposes *memory*. A represented sensation is a remembered sensation, and desires are the recorded and remembered pains and pleasures of sentient beings. The primary conception of desire is that of appetite. Strongest of all are the desires that lead to self-sustenance, that is, hunger and thirst. Add to these the other indispensable needs of the body, such as, in cold climates, clothing and shelter, and we have what can be grouped under the general term *want*. Next in degree of essentialness is the sexual appetite, which becomes expanded into a lofty sentiment and may be characterized by the

general term *love*. To these must be added the social, esthetic, moral, and intellectual cravings, the yearning after the beautiful, the good, and the true.

All emotions represent a striving, a universal struggle for the satisfaction of desire. All the effort put forth in obedience to desires is in the direction of satisfying them. To satisfy a desire is to end it. The unpleasant nature of desires is proved by the fact that we always seek to end them. Psychic energy has enormously increased, since evolution began. There was a time when none existed. It has developed or been evolved with organic nature, and has increased at an equal pace with the increase of mind and the development of brain. The soul of man has come from the soul of the atom, after passing through the great distilling vessel of organic life.

All desire is pain; but all pain is not desire, except in the sense of an inclination to escape it. Ordinary pains are not the desires themselves, but causes of action. They are more or less external and direct, while desires are internal, and emotional. Pain is more simple than pleasure. It consists simply in a disagreeable sensation, giving rise to instantaneous effort to move from the object producing it. This allows no time for the occurrence of a desire, properly speaking. This is the nature of all direct pains, that is, pains other than desires.

Simple pleasures are practically restricted to the senses of taste and smell. In these, as in pains of the same class, no desire intervenes between the contact and the pleasure. It should be added that agreeable sounds and objects agreeable to the eye usually give rise to the corresponding pleasures directly, without the intervention of anything that can be properly called a desire. Grouping all these under the head of presentative or simple pleasures, there remains the great class of representative

pleasures, forming by far the larger part of all enjoyments. Such pleasures consist simply in the satisfaction of desire. When the desire is satisfied and ended, what follows? Restoration of equilibrium. Not only is the pain of desire gone, but the pleasure is also gone.

The *will* of Schopenhauer is nothing more nor less than the conception which we have defined already and called *desire*. It has nothing to do with the reasoning faculty, and that is what Schopenhauer means when he calls it *unconscious*.

Pessimism is the denial of pleasure. In the normal case, the satisfaction of a desire terminates it. The question arises: Does anything intervene between the desire and its satisfaction? Is the painful state called desire continuous up to the time when it ceases altogether and the mind reverts to the antecedent state? A negative answer to this question would deny the existence of pleasure, and make pessimism the only true philosophy.

The answer to pessimism comes from the experimental demonstration that all psychic phenomena consume time. Take, for example, a direct sensation such as that which results from the placing of sugar on the tongue. It lasts as long as the sugar lasts, though diminishing in force apparently from a gradual exhaustion of the capacity of the nerve to respond to the stimulus. Still, it endures. So do the nerves that govern the emotional centers possess the power of more or less prolonged response to their appropriate stimuli. The act of gratifying a desire consumes more or less time. In the higher emotions, the duration of the pleasurable state is greater than in the lower ones. While in the primary physical form of satisfying love it is only momentary, in the secondary form it seems to be indefinite in time. What is true of love is true also of other permanent pleasures

and enjoyments. They are real at least to the subjects of them. And this is the refutation of pessimism.

Pessimism is the product of a hostile social state. Its answer is the substitution of a friendly social state. Only the amelioration of the social state can overthrow pessimism. The philosophy opposed to pessimism is not optimism, the gospel of inaction, but *meliorism,* which is scientific utilitarianism.

Happiness differs from pleasure. It can be defined as a condition of constantly recurring pleasures of whatever class, predominating largely over pains. Perfect health is one condition to happiness. A second condition is more or less complete freedom from pain. The last condition, and by far the most important of all, is the means of satisfying desire.

Feeling and function are distinct things; they have no physiological relation to each other. Function is the object of nature; happiness is the object of man; action is the object of society.

The history of man, if it should ever be written, would be an account of what man has done. Subjective psychology is a psychology of action. It is the essence of the doctrine of individualism that what is good for the individual must be good for society. This is based on the admitted fact that society exists only for the individual. Society is only an idea; the only reality is the individual. When reformers talk of reforming society, they mean such modifications in its constitution and structure as will, in their opinion, result in improving the condition of its individual members.

Most books on human or social action deal exclusively with the friction which it engenders, with its interferences and conflicts, and how they may be lessened. This has been dignified with the high-sounding name of

ethics, or the more grandiloquent one of "moral science." All the great moral precepts are as old as human records. The "golden rule" of Christ was laid down independently by Hillel and Confucius, and never practiced by anyone. However important moral conduct may be in itself, there are many reasons why it should not absorb so large a share of the attention of thinking persons. The belief that moral character can be improved by ethical teaching is erroneous.

Charity is simply a mode of temporarily relieving the needs of a part of society, by alloting them voluntarily something of society's excess produce which, but for social bars, they would take anyhow. It is a temporary way of relieving the social friction. Most charity is giving by the benevolent class, not to the poor class, but to the non-benevolent class. Waiters' tips and porters' fees are examples of this. The effect of giving such gratuities is to enable the employers to keep down the wages of the employees who receive the gratuities. Charity and alms-giving do not differ in principle from the giving of tips and fees. It is probably true that the percentage of criminals from the wealthy class is greater than from the indigent class. Poverty is not due to idleness and wastefulness; the percentage of idle and wasteful rich is far higher than the percentage of idle and wasteful poor.

It is consoling to the possessors to insist, "the poor always ye have with you." This may change two hundred or two thousand years from now. If it ceases, it will not be ethical teaching that has produced the change, but improved social organization.

There has, however, been real moral progress. Moral progress consists in reducing social friction, and is negative in the main. A positive moral progress would con-

sist in the increase of pleasure. The highest ideal of happiness is the freest exercise of the greatest number and most energetic faculties. This is also the highest ethical ideal. To remove the obstacles to free social activity would abolish the so-called science of ethics. The avowed purpose of ethics is to abolish itself. The highest ethics is no ethics. Ideally moral conduct is wholly unmoral conduct. The highest ideal of a moral state is one in which there will exist nothing that can be called moral.

THE THINKING FACULTY AS THE DIRECTIVE ELEMENT. The first activity of sentient creatures is *exploration* of the environment, which is *instinctive*. The frog has passed this stage, and entered upon the second stage, which may fairly be called *incipient intuition*. It is able to perceive that the indirect act will be the successful one. *Full intuition* is not reached until a creature, after surveying its surroundings, is capable of perceiving from the outset that only by setting out in an opposite direction from the object to be attained, can it succeed. This quality may correctly be called a *perception of relations;* no other intellectual faculty exists in most animals.

Intuitive perception was developed under the spur of strong feeling or passion, that is, of desire. Herb- and grain-eating animals only very slightly exhibit this quality, sometimes called *sagacity* or *cunning;* but carnivorous animals display it in a high degree. They *know*, as we say, what their victims will do under given circumstances, and devise means to prevent their escape. A higher exhibition of this arises in the sexual contests of males. Brain development, in all probability, is in reality a secondary sexual characteristic. Only the mentally highest animals, especially domestic dogs, elephants, and a few horses, exhibit the clearest cases of true sagac-

ity. The *intuitive perception* of animals develops in man to *intuitive reasoning.*

In primitive man's struggle for existence, brute force played a diminishing part, and mind an increasing one. The pursuit of subsistence among men became the pursuit of the *means* of subsistence. Animal activity became industrial activity, and the general term applied to industrial activity is *business.* The great aim and object of life is success in business. Although animal methods have changed to human methods, the psychic principle remains the same.

The indirect method which best insured success in business is most often expressed by the word *shrewdness.* The relations are too complicated for mere animal cunning to suffice. Fitness to survive does not depend upon intelligence, but upon shrewdness.

Among the derivative desires that have grown up in society, the most powerful is doubtless ambition. Under the influence of government it took the form of love of power and its various manifestations have played a principal rôle in the history of man. The politicians and demagogues of any country are simply the persons who combine with an unscrupulous love of power or desire for emolument from the public revenues the highest development of the animal side of the intellect. They are the ones who from a strictly biological point are the fittest to survive in society. Higher than these is the diplomat; diplomacy is the typical form of this original intellectual activity in one of its highest stages. In warfare, the same quality goes by the name of strategy.

All these mental acts involve a form of deception. The cunning of the fox and other animals is chiefly a mode of deceiving the creatures that constitute their prey. In the various modes of acquisition pursued by

man in the social state, the principle of deception plays an important part. In spite of man's internal carnival of desires, little of it all comes into view on account of the systematic deception constantly practiced to prevent its observance. The general concealment of emotion of every kind belongs to this category.

In civilized life, deception is the rule on every side. This assumes a malignant form among a large and ever-present minority of men. Social institutions favor the existence of such a class, a parasitic class living by their wits; and this class is the one that has done most in framing and perpetuating such institutions. If nine out of ten lawyers were turned into a useful profession, justice would gain immeasurably. Yet it is the lawyers who are entrusted by the credulous masses with the framing of the laws, and so long as the masses continue to do so they must pay the penalty of their own stupidity. The great departments of exchange and finance also abound with parasites. All this is harmonious with the method of nature.

Intuitive judgment may be said psychologically to consist of a perception of *truth*. It is in no sense a deductive process. The data for an intuition are combined already in the brain into a psychological unit which is used as a complete entity and is not decomposed by the intuitive act. Men do not depend upon their reason in the ordinary affairs of life. They use what is popularly called "common sense"; and this differs scarcely at all from what is here called intuitive judgment.

Female intuition has developed from a faculty of the mind which originally had as its sole purpose the protection of the mother and her offspring. It is a part of the maternal instinct, and its acuteness and subtlety are proportional to the narrowness of its purpose. With the

origin and growth of civilization this power has increased in complexity, and has ever been the safeguard of the family against all attacks, strifes, and abuses from whatever quarter. In the highest stages it comes into constant play in guarding the virtue of woman, detecting the infidelity of men, protecting the youth of both sexes from temptations and pitfalls of all kinds, and in a thousand other ways. Upon such questions the judgments of women are already formed in the past; so that when the occasion arises, no time is lost in reflection or deliberation. As Addison worded it,

> The woman that deliberates is lost.

This faculty is eminently conservative. Yet this needs a qualification. Woman's conservatism is not directed toward institutions and surrounding conditions, but is centered on self and offspring. It consists in self-preservation, rather than in the preservation of institutions. Moreover, female intuition involves no deception, whereas male intuition has for its essential characteristic the principle of deception. The dominant characteristic of the male faculty is *courage;* that of the female, *prudence.*

In all the active or progressive forms of intuition, involving the principle of deception, that have thus far been considered, the faculty expends itself chiefly upon sentient beings. Very early in the human stage, and more especially at the beginning of the social stage, the application of the directive faculty to inanimate things began to assume importance. Foresight in accumulating stores for future and permanent supply of wants may have been the earliest and simplest form of exercising this faculty; but along with it went the discovery of

means for increasing the ease and rapidity with which this could be done. Whether the primary mode was the chase or some early form of agriculture, it called forth a new form of the intuitive faculty. The word which most adequately conveys this idea is *ingenuity*. The use of a club or a stone to increase the effect of a blow may seem an exceedingly simple device, and yet it is doubtful whether any ape or monkey has been known to resort to it. If they did, this would only remove the origin of the inventive faculty so much further back. The most complicated nests and methods of birds and animals may involve some slight use of invention, though, quantitatively considered, these fall infinitely below the simplest forms displayed by primitive man.

Invention altered the primitive club or stone to the modern firearms of today. Methods of trapping animals, agricultural implements, architecture, garment-making, the harnessing of steam and electricity, all these indicate the development of the inventive faculty. With the general upward tendency of civilized life, inventions have indefinitely multiplied. It is easy to see that invention is the real civilizing agent.

Whereas intuitions may be spoken of as *subjective*, invention is *objective*. Again, subjective intuition is *egoistic*, while invention may be called *disinterested*. Invention may be defined as the *perception of relations of utility*. While all intuition consists in this, in all the forms except invention, the only utility considered is immediate utility to self. The utility that the inventor perceives is perpetual utility to all who may use the invention. In this sense, the inventor may be called the most practical of all men. Most inventors see their inventions developed by business men. The latter's talents

are of a lower, coarser grain, and consist to a large extent in gaining for the business men what really belongs to the inventors. Mechanical ingenuity certainly very closely resembles the subjective forms of intuition. Qualities of material bodies and physical forces are harnessed to carry out the will of the inventor. This requires a high degree of intellectual development.

The inventive faculty gradually developed into a passion. Ability to discern utilities and make the requisite adjustments was, and still is, recognized as a form of genius—the inventive genius of man. A small but increasing proportion of the population devoted themselves more or less exclusively to this task. The development of this genius in man ultimately resulted in the introduction of *art*. It caused the raw materials of nature to be discarded and replaced more and more, and at length almost exclusively, by artificial products. Civilization in all its essential characteristics is an exclusively artificial product, the product of the inventive genius of man in modifying and altering the course of nature.

The introduction of the arts, the products of inventive genius, has entailed upon mankind the necessity of labor. In most ages and countries this has been a severe hardship upon the great mass. The unjust distribution of the products of labor is not chargeable to inventive genius but to greed, which is a form of the egoistic faculty; and this presents a problem for the sociologist. To the account of inventive genius, in the broadest sense of the term, must be set down the spirit of scientific inquiry and the passion for original research which so largely characterize the modern age, and which have wrought such a momentous change in the character of civilization and the condition of society.

May man's inventive genius be increased in any way?

The number manifesting this kind of genius may be greatly increased through a form of education which should be really adapted to calling it forth. Even if the mind cannot be trained to invent, the mechanical principles of common inventions can be taught to all, and the mind can be taught to look for utilities. This would, virtually if not literally, increase, develop, and stimulate the inventive genius of man.

We now reach the faculties or branches of the intellect which are secondary in rank and derivative in character. None of these by any possibility could have been developed directly from nature. Natural biological activities require the motive of advantage. There are certain mental qualities which are clearly exempt from the biological law of advantage, since their exercise in no way tends to render their possessor any more fit to survive in the struggle for existence. Any faculty of which this is true has the true stamp of derivativeness.

Of all these modern, derivative outgrowths of the primary and original intellect, the one which seems most closely connected with it is the faculty of *imagination*. This consists in rearranging the materials in the possession of the mind into new forms, combinations, and relations. Its more important aspect is the active one, in which it is seen as the so-called creative faculty. The faculty was simply a development from the inventive faculty, and can be successfully related to it. In pace with the development of the inventive genius, there developed an esthetic sentiment. It is inventive genius which furnishes the practical arts. Creative genius, on the contrary, ignores the practical and pursues the esthetic. It results in what are known as the *fine arts*. Architecture, one of the fine arts, occupies a position midway between the practical and the esthetic and com-

bines both, for both the inventive and the creative faculty are here at work.

Under the head of *speculative genius* are included all the disinterested or non-egoistic intellectual faculties or attributes, not embraced by either inventive genius or creative genius, as so far described. As inventive genius was extended to include the faculty of scientific discovery, we are here chiefly limited to what is commonly embraced under the term philosophy as distinguished from science. What are the attributes which speculative philosophy, in its widest sense, calls into exercise?

The inventive faculty began to busy itself with the wider relations existing between all the observed facts of nature, whereby it was able to discover truth, and lead the way to science. Its primary purpose was still the discernment of utilities; but it soon encountered relations and began to discover truths whose utility either to self or to mankind was doubtful or even imperceptible—truths which were beyond its power to seize upon and convert, through any exercise of ingenuity, to human use. Everywhere he gazed, man beheld objects and phenomena of nature, such as the sun, moon, stars, mountains, rivers, the sea, over which he had no control, and which were to him incomprehensible, inscrutable, and unchangeable.

Of all such relations, that of causation was the most fascinating. It is possible that the still egoistic intellect, in striving to master these wider relations, may have been, at least at first, largely influenced by a vague sense that, could it but once understand them, it might bend even these to its selfish uses. When storm and flood and thunderbolt wrecked their way through man's habitations, he may have dreamed that these too might be yet

made to feel man's power, and bend their necks under his yoke, in compliance to his ambitious will.

Thus began man's great quest for the causes of the unexplained and irresistible phenomena of nature. Man first projected himself behind the phenomena of nature, and supposed the same or similar causes and methods as those which he employed. The events of nature were conceived as presided over by intelligence and will in all essential aspects similar to those of man. Thus arose the mythologies of the world. At the same time, man turned his speculative faculty inward upon himself, and thus created philosophy. Two other fields developed, the most remote from the egoistic base of mind: logic, and mathematics. For these are purely hypothetical and purely abstract. Of the two, logic is the more abstract; since geometry may be regarded simply as the application of logic to quantity. Mathematics is the test or criterion of all science; logic, of all reasoning. Unburdened by facts or concrete conditions, mathematics reaches the absolutely exact; and all the sciences seek to approach as closely as possible to its perfect standard. Similarly, logic furnishes the laws by which all the intellectual operations must square themselves.

Abstract reasoning may be regarded as the highest stage which has been attained by the human mind, measuring the climb upward exclusively by the degree of divergence from the purely concrete, interested, egoistic base of the intuitive reason. This form of development, however, is by no means necessarily a progress in the direction of practical importance. Such processes must be exempt from the law of natural selection. Yet if invention and scientific discovery furnished the material factors of civilization, generalization and speculation, with the aids of philosophy and scientific reasoning, have

given the world an intellectual civilization, without which material progress would have little value.

Intuition is absolutely simple and undifferentiated intellect. It contained the germs or potentialities of all the intellectual faculties that subsequently evolved from it. The intellect is of a purely psychic, and not at all of a physiological nature. Its operations are correlated with actual movements taking place in the brain and the higher ganglia, doubtless in the strict relation of effect to cause. Intellect is simply a property of mind, as sweetness is a property of sugar.

Intellect must not be confused with consciousness. Consciousness is not a faculty, but rather the condition of all mental operations. When consciousness ceases, mind ceases. Consciousness embraces feeling as well as thinking and knowing. Nor is intellect knowledge. In its active sense, that of knowing, knowledge is an integral part of intellect. In the more usual, passive sense, knowledge is the result of the intellectual processes, and in turn the material for subsequent intellectual operations. Intelligence is not intellect: it simply predicates a fair degree of intellectual capacity, in possession of an adequate supply of knowledge.

The psychology of intellectual direction is the name which may be given to the work of the intellect in controlling the true psychic, and hence also, the social forces. The intellect is not the force that makes the changes desired in the environment; it is simply the directive agent. The intellect is in constant use and ceaseless activity, and directs the greater part of the movements of its possessor. It is this which distinguishes man from the other animals, and makes him a *rational being.*

Social Union of the Psychic Factors. *Nature* is

used here to denote all classes of phenomena, whether physical, vital, or even psychic, into which the intellectual or rational element does not enter. The word *mind* will be used in the somewhat popular sense of rational or intellectual, the two terms thus mutually excluding each other and, taken together, covering all possible phenomena.

As has been pointed out, the process or method of nature is the opposite of economical, being wasteful in the extreme, and consisting in the infinite multiplicity of chances, while the process or method of mind is the only true economy. Nature is practical, in that she never makes anything which has not the potential elements of utility; and prodigal, in that she spares no expense in accomplishing even the smallest result.

The tendency throughout nature is to exaggerate the irregularities of normal development. Thus the progress of organic development has been to a large extent the successive creation of types that have contained within themselves the elements of their own destruction. This rhythmical character of organic progress is therefore essentially self-defeating. In natural economics, the effects are exactly equal to the causes; in human or rational economics, the effect is increasingly greater than the expenditure involved in the cause.

It is in rational man that the first application of anything worthy of the name of economy appears. Only through foresight and design can anything be done economically; and nature has neither. Neither labor nor production has any place in animal economics. All labor consists in the artificial transformation of man's environment. Production consists in artificially altering the form of natural objects. The arts, taken together, constitute material civilization, and it is this that chiefly

distinguishes man from the rest of nature. It is due exclusively to his mind, to the rational or intellectual faculty.

The biologic law may be defined as *the survival of the best adapted structures.* The survival of the fittest is essentially a process of *competition* in its purest form, wholly unmixed with either moral or intellectual elements. The prevailing idea which claims that it is the fittest possible that survive in this struggle is wholly false. The effect of natural competition is to prevent any form from attaining its maximum development, and to maintain a certain comparatively low level of development for all forms that succeed in surviving.

"Whenever competition is wholly removed, as through the agency of man in the interest of any one form, great strides are immediately made by the form thus protected, and it soon outstrips all those that depend upon competition for their motive to advancement."

The cereals, the fruit trees, the domestic animals, illustrate this fully.

"Competition, therefore, not only involves the enormous waste which has been described, but it prevents the maximum development, since the best that can be attained under its influence is far inferior to that which is easily attained by the artificial, i. e., the rational and intelligent removal of that influence."

The whole upward struggle of rational man, whether physical, social, or moral, has been with this tyrant of nature—the law of competition. Insofar as he has progressed at all beyond the purely animal stage, he has done so through triumphing little by little over this law, and gaining somewhat the mastery in this struggle.

"All human institutions—religion, government, law, marriage, custom—together with innumerable other modes of regulating social, industrial, and commercial life, are broadly viewed, only so many ways of meeting and checkmating the principle of competition, as it manifests itself in society."

The ethical code and the moral law are nothing else than the means adopted by reason, intelligence and refined sensibility for chaining the competitive egoism that all men have inherited from their animal ancestors.

The brain of man was itself originally an engine of competition. The competition which we see in the social and industrial world, competition aided and modified by reason and intelligence, while it does not differ in principle or purpose from the competition among plants and animals, differs widely in its methods and effects. We see in it the same soulless struggle, the same intense egoism, the same sacrifice of the weaker to the stronger, the same frenzy of the stronger to possess and monopolize the earth. But an antagonistic principle is also in active operation. It is mind alone that perceives that competition is wasteful of energy, and therefore, in the interest of the very success that competition seeks, it proceeds to antagonize competition and to substitute for it art, science, and coöperation.

"In society, therefore, competition tends to defeat itself by inciting against it the power of thought. It cannot endure. It is at best only a temporary condition or transition state."

On the one hand, the competition between men resolves itself into a competition between machines, and instead of the fittest organism it is the fittest mechanism that survives. On the other hand, the competition between individuals becomes a competition between associations

of individuals. Such associations are the result of coöperation, which is the opposite of competition.

"The chief difference between employers and employed until recently has been that the former have used the rational method, while the latter have used the natural method. . . . Latterly, however, labor has begun in a small way to call to its aid the psychological expedient of coöperation."

This was at first, so strange and unexpected did it seem, looked upon as a crime against society, and many still so regard it. The laws of modern nations are framed on the assumption that capital naturally combines, while labor competes. Attempts on the part of labor to combine against capital are usually suppressed by the armed force of the state, while capitalists are protected by the civil and military authority of the state against such assumed unlawful attempts. These enormous odds that labor must overcome will greatly retard the progress of industrial reform, which aims to place labor on an even footing with capital in this respect.

Competition between industrial associations, or corporations, follows the law of competition among rational beings in general, and is only a brief transition period, to be quickly followed by further combination. The latter gave rise to corporations; the former gives rise to great compound corporations, now commonly called trusts. This continues until the whole product of a given industry is controlled by a single group of men, which results in a monopoly control of the product. Yet this is not an unmixed evil, since the wastage of competition is removed.

The activities of salesmen and commercial travellers resulting from competition, are pure wastage. And, as for advertising,

"The essence of an advertisement is a falsehood. It is an intentional effort to make the public believe that the particular article advertised is either better or cheaper than the same article sold by rivals, which the dealer knows is not the case. Every sale thus secured is therefore really 'obtaining money under false pretenses,' which is nominally a punishable offense. . . . In fact, society is based on the normal occurrence of this form of lying."

When mind enters into the competitive contest,

"while it is still the strong that survive, it is a strength which comes from indirection, from deception, artfulness, cunning, and shrewdness, necessarily coupled with stunted moral qualities, and largely aided by the accident of position. In no proper sense is it true that the fittest survive."

Competition tends to choke individual freedom and clog the wheels of social progress. We thus get the social paradox that *individual freedom can only come through social regulation.* Among important propositions which the industrial history of the world has established, for the most part in direct opposition to the hitherto accepted tenets of political economy, and which Ward has called Economic Paradoxes, are these:

Competition raises prices and rates.

Combination often lowers prices and rates.

Private monopoly can only be prevented by public monopoly.

Public service will secure better talent than private enterprise for the same outlay.

Private enterprise taxes the people more heavily than government does.

Increase of wages is attended with increase of profits.

Prices fall as wages rise.

Diminished hours of labor bring increased production.

Reduction of the time worked enhances the wages received.

A man working alone earns the same as when his wife and children also work.

The words civilization and social progress are not strictly synonymous. There may be a high state of civilization which produces little or no true progress. Progress is increase of human happiness, or, negatively considered, reduction of human suffering. Civilization does not essentially consist in securing this effect. Civilization is the product of many men at work with their inventive brains, each seeking to compel the forces of nature to do something for himself.

The chief defects of the social system as it is now, and always has been, are due to social friction. The problem is therefore reduced to that of lessening social friction. If social friction should ever be completely eliminated,

"it will be by a conscious social effort wisely directed to the removal of all inducements to the indulgence of selfish greed."

It has been said that this presupposes a change in human nature. The answer is that the intuitive reason does not crave the injury of others. If its egoistic ends can be attained without this, it will not be resorted to.

It is not unscientific to ascribe to society a consciousness, the composite of the consciousness of its individual members, more or less applied to common social problems. The universal or complete organization of any given country can be compared to the organ of consciousness in the animal, thus completing the analogy of the social to the animal organism. Government, whether in its legislative, executive, or judicial function,

insofar as it acts at all, is the servant of the will of its members in the same way that the brain is the servant of the animal will. This analogy is properly applicable only in its psychological aspects.

The individual will is the conative faculty—the faculty through which a being strives to satisfy its desires. It is the means by which the will exists, leading to the supply of its wants and the safety of its life. In society the wants of individuals struggle to reach the seat of social consciousness, the organized state, and produce reactions tending to their relief. The state is the organ of social consciousness, and must ever seek to obey the will of society. Higher and higher types of statesmanship will follow the advancing intelligence of mankind, until one by one the difficult social problems will be solved. The state will extend its powers, the only limit being the good of society. As long as there is any additional way in which that object can be secured through governmental action, such action will be taken.

It is hardly necessary to note the exceedingly narrow attitude of a certain class of persons who habitually speak of government as if it were something foreign to the people, and hostile to the true interests of society. Such views are especially meaningless in modern times, when governments have become so extremely sensitive to the social will that a single adverse vote will overthrow a cabinet, and where appeals are every year taken to the suffrage of the people.

"This country is today fully ripe for a series of important national reforms, which cannot be made because a comparatively small number of influential citizens oppose them."

When the public will is positively and emphatically made known, such measures are often pushed through even

too swiftly. Government is becoming more and more the organ of social consciousness, and more and more the servant of the social will. Our Declaration of Independence, which recites that "government derives its just powers from the 'consent' " of the governed has already been fully outgrown. It is no longer the consent, but the positively known will of the governed, from which government now derives its powers.

The moralists have undertaken the impossible task of removing the so-called evil propensities of man. Meliorism teaches us that there are no such, but that the evil consequences of actions dictated by natural impulses may be rendered impossible. Desires alter as the environment alters. This constitutes the overwhelming argument for the creation of a proper social environment. The desires and the consequent conduct of men depend upon their ideas, that is, their opinions and beliefs, and these in turn depend upon their education. It is, therefore, this education that requires first to be attended to. It is the highest duty of society to see to it that every member receives a sound education.

Should this step be taken, there would still remain a wide field for the exercise of the collective ingenuity. The problem before the social intellect is nothing less than the organization of happiness. But the existing evils of society are so great and so universal, that the first steps would necessarily be taken rather in the direction of lightening or removing these, than in increasing or extending the positive enjoyment of life.

"So long as there is pain to be relieved, the attempt to heighten pleasure seems a sacrilege. The social intellect should, therefore, first and foremost, grapple with the whole problem of reducing the social friction."

Governments of the past and present may be regarded as empirical, and they have served a purpose in social development and civilization. They may be classified into *aristocracies,* with a ruling class, not necessarily superior, but held to be so; *autocracies,* or individual governments; and *democracies,* crowd rules. A fourth stage, revolting against these in the direction of individualism and sometimes carried so far as to amount to practical anarchism, is gradually yielding to what may be called *plutocracy,* which thrives well in connection with a weak democracy and aims to supersede it entirely. The world is approaching a stage at which those who labor, no matter how skilled, how industrious, or how frugal, receive merely enough "to subsist and to perpetuate their race." The rest finds its way into the hands of a comparatively few, usually non-producing, individuals. These are great and serious evils, compared with which all the crimes, recognized as such, that would be committed if no government existed, would be merely trifles.

"The underpaid labor, the prolonged and grovelling drudgery, the wasted strength, the misery and squalor, the diseases resulting, and the premature deaths that would be prevented by a just distribution of the products of labor, would in a single year outweigh all the so-called crime of a century, for the prevention of which, it is said, government alone exists."

This ignoring of great evils, while so violently striking at small ones, is the mark of a sick civilization, and warns us of the approaching old age of the race.

Primitive government, when only brute force was employed, was strong enough to secure the just and equitable distribution of wealth. Today, when mental

force is everything, and physical force is nothing, it is powerless to accomplish this.

"It is utterly illogical to say that aggrandizement by physical force should be forbidden, while aggrandizement by mental force or legal fiction should be permitted. It is absurd to claim that injustice committed by muscle should be regulated, while that committed by brain should be unrestrained."

Can society escape from the coils of plutocracy, in which it finds itself today so ruinously entangled? There is one power, and only one, that is greater than that which now chiefly rules society. That power is society itself. The one form of government that is stronger than autocracy or aristocracy or democracy, or even plutocracy is *sociocracy*—rule of society by itself. Sociocracy will differ from all other forms of government that have been devised, and yet that difference will not be so radical as to require a revolution. Society would inquire in a business way, without fear, favor, or bias, into everything that concerned its welfare, and if it found obstacles it would remove them, and if it found opportunities it would improve them. It would further, in all possible ways, its own interests. Let the social ideal of the socialization of happiness be erected, and let society start moving toward it, and the result is already practically achieved.

CHAPTER IV

APPLIED SOCIOLOGY

MOVEMENT IN SOCIETY. Pure sociology is merely the scientific inquiry into the actual condition of society. It aims to answer the questions What, Why, and How. Applied sociology aims to answer the question, What for? It deals with the object, end, or purpose of society. The subject-matter of pure sociology is achievement; that of applied sociology, improvement. All applied science is naturally man-centered. Pure science produced the first change of front in man's thinking, namely, from God to nature. Applied science constitutes a second change of front, that is, from nature to man.

Comte laid down two principles which are well worthy of attention. The first was that the practical applications of the sciences increase with their complexity. The other was that phenomena grow more susceptible to artificial modification with the increasing complexity of their phenomena. Both of these hint that sociology, the highest and most complex of the sciences, is far more suitable for practical application and artificial modification of its subject-matter than psychology, biology, physics, chemistry, and astronomy.

Applied sociology proceeds on the assumption of the superiority of the artificial to the natural. This point has already been demonstrated several times in this study. The purpose of applied sociology is to harmonize achieve-

ment with improvement. The reason achievement has done so little toward improving the condition of the human race lies in the fact that achievement has not been, to any great extent, socialized. The problem of applied sociology is that of the socialization of achievement.

The fruits of achievement are incalculable in amount, as we have shown, and endure forever. Their authors are few in number, soon pass away, and would be the last to claim an undue share of these fruits. They work for all mankind, and for all time; all they ask is that all mankind shall benefit forever by their work.

The true definition of justice is that it is the enforcement by society of an artificial equality in social conditions, which are naturally unequal. Justice would forcibly shear the strong of their power to exploit the weak. All civil, legal, and political justice reverses the law of nature and is a wholly artificial institution. But applied sociology deals with something larger than civil and political justice; that is, social justice. Social justice means the equalization of social welfare or happiness. Society's whole trend of advancement has been in the direction of acquiring freedom for its members. The three stages of this have been national freedom, political freedom, and, still largely in the future, social freedom.

The new ethics has for its aim the minimization of pain and the maximization of pleasure. For the present, its effort must be confined to the former, as we have stated. The animal world lives in a pain economy. The state of primitive man was hardly better. The problem before society is, can a way be found to substitute for this pain economy a pleasure economy?

It has often been said that ideas rule the world. But this is true only of world ideas. All sane persons of

mature minds must think a thought before it can be socially effective. There have been two chief interpretations of history: the materialistic interpretation, and the ideological interpretation. The world ideas that rule the world are nearly synonymous with beliefs. Belief might be defined as fixed or settled opinion; but there is also embraced in the idea behind the word a certain disregard of the evidence upon which it rests, while in opinion a certain amount of evidence is implied. Beliefs rest on feeling. World views grow out of feeling. They are bulwarks of race safety. You cannot argue men out of them. They are the conditions to group, as well as to individual, salvation.

This element of interest, or feeling, links beliefs to desires, and reconciles the ideological and the materialistic interpretations of history. For the materialistic or economic interpretation rests upon desires and their satisfactions. Every belief embodies a desire, or rather a great mass of desires. The belief or idea is not a force; the force lies in the desire. The belief does not *cause* the desire; the reverse is nearer the truth.

The economic impulses—desires, wants, feelings—necessarily precede the ideas—opinions, beliefs, world conceptions. Yet it is the latter that determine action. The purely economic interpretation of history is hence entirely inadequate.

Man's first interpretation of the universe consisted in his attributing to it his own nature. Man regarded all nature as *animated*. Most early religious ideas are of this nature. The trembling of the leaves, under the push of the invisible wind; the steady forward march of the waves, propelled by an unseen force, the movements of a stream, the clouds, the lightning, the sun and the stars and the moon—all of these have no apparent mover,

and yet, they move. The savage, with small shelter by day and often lying under the glimmer of the sky by night, sees all this much more vividly than civilized man. He tries to explain it all, and has very little difficulty in doing so. All these elements of nature, to be capable of moving and changing their forms, must be alive; that is, must be ensouled. They must themselves be living beings, endowed both with spontaneous activity and some degree of intelligence akin to his own. This conception is the essence of fetichism—the earliest form of religion, in the sense of a belief. Out of this grew all other religious ideas—not simply primitive beliefs, but the whole series of theological conceptions, and all beliefs respecting soul and spirit.

We have had Tylor's celebrated "minimum definition" of religion, as the belief in spiritual beings. This grew out of two elements, a subjective or internal one, and an objective or external. To the subjective cause belonged such manifestation as: shadows, reflections, echoes, dreams, delirium, insanity, epilepsy, swooning, trance, and death. The objective cause lies in the movements of nature, discussed above. No amount of thinking, without the organization of facts and ideas that science gives, could give man a correct interpretation of any one of these.

A man's shadow, to the savage, with no conception of the nature of light, is clearly his own form, more or less distorted by perspective, without substance, thickness, or touchability, moving as he moves, altering its shape with the altered angle of the sun, or the angle of the object it falls on. It is clear that he causes it, that it is in some way a product of himself. Evidently there is something in him, or belonging to him, that can go out and occupy another part of space from that occupied

by his real self—another self, a double, but devoid of flesh and blood: a spiritual double. All mythology exhibits this belief; even the cultured Greeks and Romans inextricably confused "shadow" and "spirit."

A man's reflection in a still pool of water shows this other self, but far more distinctly, equipped now with color and recognizable features. Others who see it inform him that all the features are his own. He sees the images of others, which agree with the originals. When he plunges his hand in the pool to catch this double, there is nothing there. What he sees must be *immaterial*, that is, a being without matter in its composition; this conception is close to that of spirit.

Echo confirms the same belief. An echo is not an answer; it is a man's own voice, answering his voice here from a distance. His other self, then, must have the power of speaking. Dreams are surer evidences of the activities of this spiritual other-self. In them the man wanders far away, meets other men and other scenes, does acts of bravery, enjoys pleasures never before tasted. He awakes; he is assured that his body has been lying in the same place, motionless, all the time. Yet he knows that he has done these things. It must be that other self at work again. . . . In disease-engendered delirium, catalepsy, insanity, the same result follows—strange things are said, strange things are done, by the sufferer, which he forgets and has to be told of, on recovery. His other spirit must have possessed him. It is well known that the healing art of primitive people consists primarily of seeking to drive the spirits out of the sick. Christ, when he sought to exorcise demons, as those that the account says were driven into the Gadarene swine, was moving in this same low primitive state of belief.

Trance, ecstasy, mediumship, swoons, and, at last,

death, all lead further to a riveting of this belief in the double, the other-self. Death is no more, to the savage, than a permanent swoon. The double has gone, this time never to return. Where has it gone? At first, the spirit is supposed to reside near the body, or where the body is buried; an immense number and variety of early funeral ceremonies illustrate this. These all point, says Ward, to one notion common to all races, namely, that of the continued existence after death of the bodiless part of man.

The ideas above caused primitive man to people every spot with numberless spirits. As a rule, these were regarded as evil disposed; to them were attributed most of the misfortunes that cursed the living. These had to be feared, worshiped, implored, and propitiated. When a great hero died, his weapons were buried with him, to arm him in the next life; his possessions were often interred with him, for his later use; too often slaves and wives were sacrificed, to accompany him and minister to his wants. As time passed, his earthly exploits became more and more exaggerated, until they became marvels and miracles. Complete elevation to godship is the final result. This takes the form of ancestor-worship, regarded by some as the basis and beginning of all theological conceptions.

This subjective evidence, overwhelming to primitive man's mind, accompanied by an equal bulk of objective evidence, caused man to believe that there is such a thing as spirit—an invisible, untouchable, conscious power, not occupying space, and freed of the limitations that hobble the actions of embodied beings.

The idea of the temporary continuance of man's spirit led irresistibly to a belief in the permanence of this spirit—the belief in personal immortality, from the sub-

jective point of view. The objective evidence took the form of creating a number of powerful spiritual beings, or gods. Ancestor worship may have been the first form; but the deification of the sun, animals, plants, stones, also took place in widespread manifestations. The time came, in the development of these beliefs, when the primitive many-god state was succeeded by a dualism: when the spiritual power was crudely divided between two great antagonistic forces, Good against Evil, Light against Darkness, as the Persian religion has it. The Christian Satan, Mephistopheles, Devil, Lucifer, Old Nick, seems merely a mere modification of the Persian Ahriman, god of darkness.

Religious structures grew from the start. Man believed in the multitude of spirits; evils came; evidently the spirits had to be persuaded to lighten their curses. This could be done only through some mediator, who had the gift or power of communicating with these spirits. This mediator must be a man; otherwise he could not also communicate with men. Is it possible that any men possessed this power? Under such circumstances, the slenderest claim to such a power would be eagerly listened to. Even today self-styled healers and prophets can attract a multitude of followers; it is not surprising that primitive healers and self-styled prophets drew galaxies of followers after them. This was not solely fraud; all believed in the spirits; and perhaps all of the healers and prophets believed that they had the actual power of communicating with the spirits.

It was thus that man's priesthoods grew. The group sentiment of safety created it; but its activities soon began to run counter to the very force that created it. The political organization was still weak, and its potential penalties weak. There was only one source of fear

to which men would bow, and that was the fear of the anger of the gods. Thus men claiming the power to avert this formed the priesthood, able to coöperate with the political power, whatever it might be, in preserving the social order. This class still continues to exert an influence at least equal to that of any other class in the social structures.

The religious ideas thus far considered consist entirely of error. Religious structures are based entirely on religious ideas. They served a useful function. May error, then, be useful? There is no doubt of this. And yet, the greater part of the evils from which the human race has suffered, evils unknown to animal races, are due really to error—to false conclusion drawn from inadequate premises. The most shocking of these consequences unquestionably is the sacrifice of human victims at the funerals of chieftains. This custom is rare among the lowest races, and reaches its maximum in races well advanced toward barbarism, or fairly within this stage. This belief is a typical world view. It exists in all human races at the proper stage in the development of the rational faculty; and was shared by every member of the group, without exception. Some one has well said that there are no dissenters among savages.

The placing of property inside the tombs of the dead led, at times, to an enormous destruction of property. Long after the sacrificing of human victims has been given up, the sacrificing of property has continued.

"Indeed, the funerals among civilized peoples are often extravagantly expensive, and this waste of property may be regarded as a survival of the barbaric practice of burying or destroying all the property of a dead person."

The erection of costly tombs for the housing of the remains of great warriors and rulers followed a similar primitive logic. This may be all that we still have of some remote civilizations. An enormous amount of labor was expended upon these—labor withdrawn from productive industry, and involving a corresponding amount of misery among the people. The pyramids of Egypt represent the highest point to which this was carried; for they are merely the tombs of the great kings of the country. They are human error hardened into granite.

The principal practices occurring in religion, based on error, in their successive development among all peoples, are as follows:

(1) Self-mutilation. A widespread custom, common at funerals and afterwards, as a token of grief, supposed to please the departed spirit, or appease some god. Out of original cutting and gashing of the mourners, it softened into sackcloth and ashes.

(2) Superstition, restricted to forms of error which do not take life, but restrict liberty of action and fill the minds of the people with a thousand baseless fears and terrors. This also bars intellectual and material progress, even in civilized times. In China, for instance, the building of railroads was opposed, for fear the noise of trains would disturb the dead.

(3) Asceticism. This appeared above barbarism. The earlier self-torturing gave way to that milder form called puritanism in America; this is dangerous to health and destructive of happiness and of progress.

(4) Animal-worship. Primitive animal totemism, among savages and barbarians, becomes more

serious when among civilized people, as in India, it makes vermin, serpents, and dangerous wild beasts sacred, and prevents their destruction. The logic of this grew in the belief that human souls shuttled in and out of the bodies of animals. In India, in 1899, 24,261 people died of snakebite; tigers, leopards, and their kindred annually destroy between 2000 and 3000 people, largely due to this error.

(5) Witchcraft. The tendency appeared early to restrict this chiefly to women. Minds as advanced as Luther, Melancthon, John Wesley, and Blackstone believed implicitly in witches. The thousands of witches put to death through the ages have all been victims of this hideous error.

(6) Persecution. This is confined here to the persecution for religious motives of so-called heretics. A heretic is a person whose religion differs slightly from the accepted religion. A difference of belief is a mark of civilization; and it has always happened that the dissenters were the more civilized. Their persecution and destruction means the slaughter of the elite of mankind. Those who can escape fly to other lands, and drain off the vigor of the persecuting homeland. Spain has declined, due chiefly to this cause.

(7) Resistance to truth. This opposition of error to truth has probably been more serious for mankind at large than all of the other errors combined. All the truth that science has revealed has had to struggle against the en-

trenched errors. A chief effect was to divert men from trying to discover truth; and the greater part of all intellectual activity has been diverted into safer but comparatively useless channels. Its blighting effect is still entrenched among many of our ministers, professors, editors, and other leaders of thought. The price to pay for material success in intellectual fields is often a pandering to the gross errors of the popular mind.

(8) Obscurantism. This form of the last error manifests itself in the prohibition or suppression of books and writings, and the general censorship of the press. The Roman Catholic and the Greek Catholic churches have practiced this most effectively. It was once effective; today, except among the devout followers of the faith, it is largely a matter for laughter. Most of man's greatest brain-efforts appear on the Papal Index.

Robert G. Ingersoll, when asked if he could suggest any way by which, if he had the power, he could improve the universe, replied that he would first make health "catching," instead of disease. This error we have been considering might be considered as social disease, which is contagious, and passed on from mind to mind and from age to age. The mission of social science is to do away with error, and replace it by truth. The method of this is universal education.

The view that matter and spirit are the same is true monism, and Ward states his belief that it is also true science. Both error and truth are ideas, that is, they are conclusions drawn from facts. Error is false deduction; truth is correct deduction. With the same reasoning

power, the truth or falsity of the conclusions will depend upon the amount of knowledge. An uninformed class is always regarded as an inferior class. An uneducated man is presumed to be low in the social scale; a college graduate, to be high. The lower classes in the past have been too uninformed to aid themselves; most of their progress has come from the efforts of the informed upper classes. And the uninformed class are kept uninformed by priesthoods, and—

"The later, more ingenious priesthoods have invented at least one more terrible punishment than any savage priesthood has ever devised, namely, that known as 'eternal damnation,' or a future state of endless pain."

In addition to religious errors, the lower classes suffer from the error of loyalty to their leaders among the upper classes.

And yet, the lower classes of society are the intellectual equals of the upper classes. The difference in the intelligence of the two classes is immense; but this is due, not to a difference in intellect, but to a difference in intellectual equipment, that is, knowledge.

"Of all the problems of applied sociology that which towers above all others is the problem of the organization of society so that the heritage of the past shall be transmitted to all its members alike. Until this problem is solved, there is scarcely any use in trying to solve other problems. Not only are most of them otherwise incapable of solution, but this primary problem, once solved, all others will solve themselves."

The lower class has already risen from slavery, through serfdom, to the condition of wage-earners. All truth is within the reach of all men, speaking in the large. There

is no race, there is no class of men, incapable of assimilating the social achievement of mankind, and of profitably applying the social heritage.

ACHIEVEMENT IN SOCIETY. Genius, the intellectual and moral nature of man insofar as it relates to human achievement, is to all intents and purposes a fixed quantity, which cannot be affected by any artificial devices that man can adopt. With it, therefore, the sociologist has nothing to do. The sociologist's labors must be directed toward the most effective means of utilizing those constants of nature which consist in the intellectual and moral elements of society. This can be done by appropriate adjustments in the surrounding conditions. The environment is adjustable.

Environment has not produced nor determined civilization. It is not an active agent, but a passive condition. Man is active; the environment represents opposition. Civilization is the result of activities of all men during all time, struggling against the environment and slowly conquering nature. There are immense differences in men, in this respect. Human achievement has been the work of a very small number of individuals. Certain obscure and subtle processes of nature have produced from time to time extraordinary minds; these minds, given the proper opportunity, have produced all that the world values. Human achievement is due to them; and, but for them, there would have been no achievement.

Alphonse de Candolle, in his study of the causes conducing to the effectual development of genius, lists nurture as far more important than nature. Good incomes, contact with foreign minds, faculties for research, public interest in the truth, freedom of thought and expression, lax religion, an uncelibate clergy, these

are among the specific elements of nurture that he praises. M. Odin has made an exhaustive geographical study of the production of men of genius in France. He decides that geography is not the determining factor. He finds that race is not the determinant. As to religious causation, the existence of a celibate clergy, denying legitimate offspring to certain sheltered and cultured minds, as Galton says, "brutalized the breed of our forefathers." The church, says Galton, "practiced the arts which breeders would use, who aimed at creating ferocious, currish, and stupid natures." De Candolle lists an amazing number of men of genius or talent who are the children of protestant ministers, and who would not have existed if their fathers had been celibate. This includes Agassiz, Encke, Euler, Jenner, Linnaeus, among scientists; Addison, Ben Jonson, Lessing, Richter, Swift, Thomson, Wieland, among writers; Emerson, Hallam, Hobbes, Puffendors, Sismondi, among sociological scientists; and several artists. The Catholic clergy themselves furnish, M. Odin points out, a pitiable paucity of men of talent even, compared to the Protestant clergy.

Statistics established further that men of talent and genius do not come from the country regions, but from the cities. Again, the number of women of genius, compared to the men, is about one to twenty—which de Candolle says does not spring from any essential deficiency in the female mind. Last of all we come to the economic environment. De Candolle's lists of French savants and of men of genius of the eighteenth century revealed:

Of the wealthy or noble class,	21, or 35%
Of the middle class,	25, or 42%
Of the working class,	14, or 23%

The first yields by far the largest proportion, considering the small number that belong to this class. The second is a larger class, and its production is relatively less than the first. The third represents the great bulk of the population; its relative production of men of genius and talent is almost a negligible quantity.

Dividing men of talent into two classes, (1) those whose youth had no material concern, grouped together as "rich," and (2) those whose youth was spent in poverty or economic in security, Odin establishes the following:

Periods	Rich	Poor
1300-1500	24	1
1500-1600	81	4
1600-1700	157	9
1700-1800	227	32
1800-1825	73	11

At the same rate, the nineteenth century would give, in full, 292 to 44. De Candolle's figures for men of science are similar to these figures by Odin for men of letters. The class he calls wealthy amounted to less than 3% of the population, and it furnished 91% of the men of talent in letters. The poor, comprising 97% of the population, furnished 9% of the men of talent. In amazement at these figures, he cries out, at the end, "Genius is in things, not in man."

As to social classes, 623 cases typical of high talent came from:

Social Class	Number	Per Cent	Number relative to population
Nobility	159.0	25.5	159.0
Government officials	187.0	30.0	62.0
Liberal professions	143.5	23.0	24.0
Bourgeoisie	72.5	11.6	7.0
Manual Labor	61.0	9.8	0.8

These figures demonstrate that more than three quarters of the talented men of France have sprung from the nobility, the government officials, and the liberal professions. The last column was arrived at by M. Odin's estimating the working class to constitute 80%, the bourgeoisie at 10%, the liberal professions at 6%, and the public officials at 3%.

This means that a person born of the nobility has nearly 200 times the chance to become eminent that one born in the working class has. He has 23 times as much chance as a son of the bourgeoisie has. This brings us back to the fundamental point, that the manifestation of genius is wholly a question of opportunity.

There is a prevailing idea that, where genius is concerned, education is unnecessary. This is erroneous. When M. Odin tested this in 827 cases, where he could find data concerning early education, he found that 811 had good education, and 16, education poor or none. Ninety-eight per cent of the talented authors of France received a good education in their youth; 2% received an inadequate education, or none at all.

From this we deduce that the actual manufacture of great men, of the agents of civilization, of the instruments of achievement, is not a Utopian conception, but a practical undertaking. It is also comparatively simple, and

> "consists in nothing but the extension to all the members of society of an equal opportunity for the exercise of whatever mental powers each may possess."

For absolute poverty or uninterrupted labor at long hours the chance of success is necessarily zero, no matter how great may be the native talent or even genius. Abject poverty is an effective bar to achievement. It

may be regarded as wholly utopian to propose to provide all with a high economic and social environment; it is an entirely practicable proposition to provide every member of society with such an education as will enable him to select and successfully pursue a career.

"To sum up the general results of this inquiry, it may be safely stated that a well-organized system of universal education . . . conferring 'the maximum amount of the most important extant knowledge upon all the members of society,' would increase the average fecundity in dynamic agents of society at least 100-fold."

At present, this fecundity is about 2 to 100,000 population. It can therefore be made at least 200 to the 100,000, or 1 to every 500.

The question of women and genius has been largely omitted from this discussion. Women's tardiness in talent and genius has been due, as we have shown, to the effect of her subjection to man. Remove this, and women will slowly reach an equality of talent and genius with men: so that the final number of achievers secured will be something like 400 to every 100,000, or 1 to every 250.

History may be defined as a record of exceptional phenomena. It might be called a tabloid newspaper account of the activities of the centuries. There is no essential difference between the idea that the great men of history are eternally limited in number and that their number cannot be increased, and the fallacy of superstition. Genius is present in all the social classes. The sociologist cares nothing about genius; what concerns him is achievement.

The two principal forms of opportunity are leisure and education. The dynamic quality of leisure lies in

the fact that pleasure consists exclusively in the normal exercise of the faculties. Leisure, therefore, does not involve inactivity, but always takes some form of activity. Prolonged inactivity becomes painful. The activity may be sport, or work. The instinct of workmanship, even if it be in no other form than fear of the hell of ennui, is the great and unremitting spur that drives and goads all men to action.

There are really no self-made men. There is always some sort of opportunity presented, that permits their emergence into achievement. As a result of denial of opportunity to members of the lower classes, by far the greater part of the real work of civilization has been done by privileged men, many of whom were privileged in a high degree. The talent that can fight against adversity is never of the highest and best quality.

It is social contact that equips men with language, by which they can communicate their thoughts. Isolated children, of even civilized races, probably would develop, if they never heard speech, only the crudest and most primitive sort of language. There are a thousand other benefits furnished by contact. Isolated civilized children would have to reconquer the whole environment, and do over afresh what it has taken all these centuries of man's progress to achieve. Buckle saw all this:

> "Whatever, therefore, the moral and intellectual progress of men may be, it resolves itself not into a progress of natural capacity, but into a progress, if I may so say, of opportunity. . . . The progress is one, not of internal power, but of external advantage."

The whole trend, drift, and logic of any fair study of society converges into this one focal point: that all influences, all environments, and all opportunities converge to this one focal point, education.

SOCIAL IMPROVEMENT. The purpose of applied sociology is improvement; nevertheless, attention has thus far been drawn chiefly to questions of achievement. Material civilization is upon the whole progressive, in the sense of actually bettering the condition of society; but Ward admits that the improvement is in no fixed proportion to the degree of civilization. The purpose of applied sociology is to show that achievement and improvement should at least go hand in hand.

The reason why achievement produces so little effect is that it is not appropriated by society. It is merely used; it is not possessed. Only a minute proportion of mankind knows how to do anything but simply use it as they find it. Science and art are far in advance of the people. The enormous inequalities in knowledge render this so. There has been no general elevation of society as a whole, corresponding to the brilliant and rocket-like flights of certain specially favored individuals. The world is not ripe nor ready for the blessings of science that a few privileged men have given it, and therefore it receives only a small part of the advantages.

We sometimes hear the expressions, "science for its own sake" and "knowledge for its own sake." There is no such thing. There is always an ulterior purpose, and that purpose is ethical, in the sense that it relates to feeling. The student or investigator may for a long while cling persistently to the objective and intellectual aspect, but this is because he sees that this is the way to attain the ethical end.

The reconcilement of achievement and improvement becomes much clearer, when we recognize that all science and all intellectual operations have an ethical purpose. But although all scientific truth may and in all probability will ultimately benefit mankind, it is espe-

cially the social sciences that are adapted to this function. It must always be so. Men work for a purpose, if it is nothing more than their own improvement. On the lowest planes of activity, under the universal law of striving, this is largely egoistic; but on the higher plane of genius, whether inventive, creative, or philosophic, this egoistic purpose is expanded and made to include others than self, and ultimately all mankind, so that achievement is thoroughly altruistic and humanitarian. It is not the fault of those who achieve, if this achievement does not constitute improvement. They always intend that it shall.

The failure to assimilate achievement is due to the enormous artificial inequalities in society. It is due to the exploitation of the unintelligent class by the intelligent class. So long as there remains a great mass who are not in possession of the truth that has been given to the world, and only a small class who do possess this social heritage, man's egoism and acquisitiveness will prevent any just distribution of the fruits of achievement. For knowledge is power: and sympathy, altruism, benevolence, and philanthropy are utterly unreliable principles, and cannot in the least be depended upon to insure any sort of equity or justice in society. Their whole function is mere patchwork: mere scattering perfume in front of a noisesome and poisonous sewer, instead of digging down and removing the cause of the evil odor.

All the great social inequalities are purely artificial. They are due to privilege. They are made by society. All the geniuses, all the heroes, all the great men of the world have been products of their environment—not the physical nor yet the racial environment, but the products of one or another of the artificial environments, the local, the economic, the social, or the educational en-

vironment. How many geniuses, heroes, and great men there may have been who never came under the influence of any of these artificial environments, and consequently never were heard from, no one either knows or ever will know.

The conditions to increased achievement imply and involve its social assimilation. In other words, there will be created not only geniuses, but, along with them, a market for the products of genius. This is analagous to "overproduction" on the economic field. Today, overproduction never means production in excess of the need for the goods; but it means production in excess of the market for the goods. Overproduction thus always goes along with want, hunger, and misery. This derives from the absence of a proper system of distribution, and is a consequence of the unorganized condition of society. It is the same with the production of knowledge, and with all forms of achievement. It is impossible to have too much knowledge. Society cannot have any too many active and efficient workers in any of the great lines of human achievement. Too many truths of nature cannot be discovered.

But for all this, as for the necessaries of life, there must be a market. It is no use to cast pearls before swine. A public that cannot appreciate and assimilate human achievement renders it impossible. There must be a demand, before there can be a supply. Therefore it would be useless to multiply geniuses, unless at the same time the number of those who can appreciate the work of genius is correspondingly multiplied. And all this shows the essential superiority of the logic of opportunity, as opposed to current conceptions of genius. The equalization of opportunity creates a market for all the products of genius.

The assimilation of achievement means its utilization; and its utilization means the true improvement of man's estate. The entire movement is positive; there are no negative elements. The equalization of opportunity would secure the gratification of physical wants, as completely as the spiritual ones. It could not fail to bring about the complete social distribution of the economic products of achievement, and, with the immensely increased production of such products that the new science, art, and industry would insure, all the physical wants of mankind would be supplied, along with the spiritual. The reconciliation of achievement with improvement would be complete.

Nothing that could be added to this, in the way of indicating how the ends can be attained, says Ward, would have much value. Ward does not claim to be wiser than others in devising ways and means. The average intelligence of mankind is amply sufficient to work out, adopt, and carry into effect practical measures for the accomplishment of any clearly perceived and strongly desired end.

The method of applied sociology is the administration of the social estate. The social heritage, human achievement, consisting of the knowledge brought into the world by the labors of the elite of mankind, has been bequeathed to all the members of society equally, share and share alike. But inattention, neglect, and general bad management have allowed it to slip into the hands of a few privileged persons only.

There is this fundamental difference between spiritual and material wealth. The possession by one of spiritual wealth does not diminish the share of another. All the heirs inherit it all, and may possess it all. Mere skill in the varied industries would not need to be distributed

to all, if it could be. What, then, is the social heritage? What knowledge is it the duty of society to extend to all of its members, without exception?

The primary principle is that every human being of mature age and sound mind should be put in possession of all that is known. It would perhaps be clearer, to some minds, to say that every such being should be in possession of all truth. When we say knowledge, the idea of memorizing millions of facts is likely to rise in the mind. This is not what the proposition means; it means the knowledge of laws and principles. It is generalized knowledge, under which all facts and details necessarily fall. Only to a mind in possession of such general truths do the details possess any meaning or any value. To minds devoid of general knowledge, all special knowledge presents a chaos.

Every conceivable fact, force, property, substance or thing in the entire universe finds its place and explanation under one or the other of the six major sciences. These sciences, as now commonly recognized, arranged in their ascending order from the standpoint of dependence and subordination, are:

(1) Astronomy.
(2) Physics.
(3) Chemistry.
(4) Biology.
(5) Psychology.
(6) Sociology.

Of these, astronomy is the most exact, and, in the descending scale, sociology is the least exact. The phenomena also diminish in generality and increase in complexity as we descend in the series, those of astronomy being the most general and least complex, and those of sociology the least general and most complex.

Mathematics and logic are not sciences, in the present use of the term. Ward denies that they furnish any information whatever about nature and the universe. They are simply tools of the mind, aids to the study of science. If treated as sciences, they should be called hypothetical or theoretical sciences.

In the administration of the social state, the first and principal task is to hunt up all the heirs, and give to each his share. Every member of society is equally the heir to this social heritage; and, as we have seen, all may possess all of it, without depriving any of any part of it.

"This task is nothing less than the diffusion of all knowledge among all men."

This knowledge, properly classified, falls into natural groups, and consists of a series of great truths. These truths contain within them a multitude of minor truths; but these minor truths need not be all actually possessed by every mind. All will select some of them; but different persons will require an acquaintance with different parts of this detailed knowledge, according to their tastes and pursuits. This general knowledge is embraced in the six great sciences listed above; and, if they are acquired in the order of nature, they will be both easily and thoroughly acquired. Such is an outline of the method of applied sociology. The rest is matter of detail.

Knowledge will always be increasing; nothing can prevent this. Society does not need to concern itself with this. Its duty is to see that knowledge is assimilated. When only a few possess this knowledge, it has little value. It may even be injurious. The inequalities bred of it lead to all forms of exploitation and social misery. The differences of opinion that arise from this source always divide society into factions, and cause all

manner of strife. Most of the evils of this nature are due to the ignorance by most of mankind, of truths that are known only to a few. A large part of the war and bloodshed in the world is over matters that are already settled and may have been long settled, but only in the minds of a select few, who have no means of placing the rest in possession of the truth which they possess. This is the duty of society, and the individuals possessing this knowledge are not to blame for the resulting inequalities. Usually they do all they can to impart this knowledge to others, for, as we have shown, the mind is essentially altruistic, and next to pleasure derived from the acquisition of knowledge and the discovery of truth, its greatest satisfaction is in imparting this knowledge and this truth to others.

Most educators deny that the conferring of knowledge should form any part of education, and consider that this belongs to experience in connection with affairs after school days are over. Their ideal is the illusory development of the mind. Mathematics, which is purely abstract, is *demoralizing*—Ward admits that he almost wrote *dementalizing*—to the thinking powers. Nor does history promote the judgment. For by history educators mean traditional history, which is only a record of exceptional phenomena. The only thing which can develop or strengthen the faculties or the mind is knowledge, and all real knowledge is science. It is the only working power in society, and the working power of society increases in proportion to the number possessing it. The paramount duty of society is to put that knowledge into the minds of all its members.

No one supposes, said Ward, that society will undertake to educate adults. As to whether society should go down into the slums and educate its denizens, the

answer may be made that there is no need of having any slums. Take the slum young and surround them with the proper conditions, and you end their menace. There is no other class in society whose education is half so important as this lowest and most dangerous class. Whatever the cost, it is a work that must be done, and which, when done, will a thousand times repay the cost.

This need for general education is not even recognized as a social problem by most. Meanwhile, a long train of problems, which are completely insoluble in the present state of society, are being violently attacked by a great army of would-be reformers.

"In most cases, even if we could imagine them solved for the time being, they would not stay solved; for the same conditions which now produce the evils complained of would immediately revive them, and the work would require to be done over again, and so on indefinitely."

There can be no permanent success in the solution of social questions, without striking at the root of the evils, and removing their underlying causes.

Ethical sociology, which certain sociologists place at the crown of their systems, falls naturally under two sharply defined heads: private ethics, and positive ethics. This privation is the source of great pain, suffering, and misery, and these appeal to the sympathy of all that do not have to undergo them.

"The evils of society are due to the competitive system in a state of artificial inequality of intelligence. As this state has always existed, it is supposed that it must always exist."

Yet the three so-called highest classes, the nobility, the class of high governmental officers, and the professional

classes, have been always more or less exempt from economic competition. At least, they have always professed a disdain for everything that relates to money-getting. Yet there has been no lack of rivalry among these. Even with the competitive system removed, a healthy rivalry would still exist.

Statistics of mortality show how the economic competition keeps down surplus population, by killing off the greater part of the surplus. They show that while the average longevity of the rich is from 55 to 56 years, that of the poor is only 28 years. The mortality of infants in noble families in Germans is less than 6%, while among the poor it is between 30 and 40%. Of the working classes, 50% of the children die during the first five years of their lives, while of the upper classes only 25% die during that period. The competitive system in society thus produces a human surplus, and kills it off. The surplus population is killed by poverty. Among the poor, the fatal diseases are mainly due to lack of sufficient nourishment, and to undue exposure in connection with excessive toil. The causes that produce most of these deaths would have no effect upon a well-nourished body. All germ diseases attack weak constitutions while robust constitutions resist them. The poor are always "run down," and when a disease attacks them they have no reserve power to throw it off. Hence they usually die.

Reproduction, also, is in inverse ratio to intelligence. Throughout the organic world, reproduction decreases as evolution advances; this, as Spencer showed, is true of human population. Among the very poor, child-bearing takes place about as fast as the laws of nature will permit. The intelligent well-to-do classes marry later, and have children at much wider intervals. Birth con-

trol is very prevalent among intelligent persons. The decreased birth rate in civilized countries is the surest possible mark of increasing intelligence.

To sociologists, positive ethics is the main problem. It considers the modes by which the positive improvement of the lot of man is likely to be effected. Some of these must necessarily be economic. Abundant nourishment for the body is therefore the first condition to liberty. There are other material wants, such as clothing, shelter, and heat in cold climates, which are furnished by money or its equivalent. There are thousands of other real wants, the deprivation of which restrains the freedom to exercise the faculties. In short, considering society as it is, and as it is likely to remain for a long time to come, within certain limits that may be approximately determined, the more any one possesses of this world's goods, the greater may be the measure of his happiness.

From the present state of the world's wealth, the prime desideratum of society must include an increase of production. This can definitely be done. There is scarcely any limit to the possible increase of production. There must go with this a more equitable distribution. In the language of "political economy," positive ethics demands an enormous rise in the standard of living. Life itself is capable of being made a fine art. This is the mission of positive ethics.

From an unbiased standpoint, the races of men appear to be in an infantile state. The greatest achievements of men are really trifling, when looked at from the standpoint of possibilities. Man should become absolute master of his physical environment. Just as he has learned that in union is strength, and that the way of safety, success, and achievement lies through associa-

tion, so he will ultimately learn that this is as true of races as of individuals, and that the union, association, and complete fusion of all races into one great homogeneous race—the race of men—is the final step in social evolution.

The method will be the principle of attraction, as opposed to compulsion. Human character itself can be transformed, by the transformance of human institutions. Attractive legislation will replace compulsive legislation. Such legislation may be ratified by legislative bodies; but it will originate in what may be called the sociological laboratory.

Ward's concluding words are highly significant:

"The goal toward which all man's efforts would tend would be a state of society in which no one should be obliged to do anything that is in any way distasteful to him, and in which every act should be so agreeable that he will do it from personal preference. . . . All the varied streams of benefit (increased production, and equitable distribution) would unite in securing the twofold end of increasing the sum total of social efficiency and social improvement."

GLOSSARY TO LESTER F. WARD'S SOCIOLOGY

Lester F. Ward started as a botanist and paleobotanist; and some have attributed to the habit thus engrained, of furnishing new names for new plants and new fossil plants discovered by him, his habit of renaming social forces, or of naming new social forces he discovered and isolated. Unfortunately for the popularity of his writings, the names he chose were difficult to understand and remember, and have barred many readers from his works. These names have been largely omitted from the preceding study. In order to enable the student to use Ward's vocabulary in discussing sociology, if he desires to, a glossary of the most important of the terms originated or favored by Ward is given below:

ANDROCLEXIS, male selection of mate.
ANDROCRACY, or andrarchy, male rule.
ANDROCENTRIC, male-centered.
ANTHROPOCENTRIC, human-centered.
ANTHROPOTELEOLOGY, the doctrine of man's purposiveness.
ARISTOCENTRIC, centered around "the best."
BIONOMY, the science of the laws of living functions.
BIOTAXY, classification of living forms.
CONATION, the struggle to satisfy desire.
CONSANGUINEAL LOVE, love of kindred.
CREATIVE SYNTHESIS, the explanation by which a thing is more than the sum of its factors, or the mechanical resultant of its components.
FILIATION, derivative relationship, as of parent to offspring.
FISSION, reproduction by division.
GEMMATION, reproduction by budding.
GENESIS, growth.

GYNAECOCENTRIC, female-centered.
GYNAECOCRACY, gynaecarchy, female rule.
GYNECLEXIS, female selection of mate.
GYNANDROCRACY, male-and-female rule.
KARIOKINESIS, the series of changes which take place in a cell in the process of division.
MELIORISM, the philosophy of improvement, of betterment.
MESOLOGY, the science of interpreting human events by character.
MOLAR, pertaining to a mass.
MONISTIC, based upon original unity.
MONOPODIAL DEVELOPMENT, development consisting of one main stem, with many branchings.
MONOGENESIS, single creation of the races of men.
MONOSPOROGONIA, reproduction by germ cell or spore formation.
NOETICS, noölogy, the science of objective psychic phenomena.
OLIGOCENTRIC, centered around a few.
ONTOGENY, study of the preservative forces, the study of the forces that develop and sustain the body, that relate to the whole separate being of the organism.
PARSIMONY, the law of the greatest gain for the least effort.
PARTHENOGENESIS, virgin birth reproduction.
PHYLOGENY, the study of the reproductive forces, the forces of growth of the organism into another organism, as of parent into offspring.
POESIS, making of a thing.
POLYGENESIS, multiple creation of the races of men.
POLYSPOROGONIA, reproduction by germinal budding.
PSYCHOGENESIS, the growth of mind.
PSYCHOMETRY, the measurement of psychic phenomena.
SOCIOCRACY, rule by society.
SOCIOGENY, the study of the non-essential social forces.
SYMPODIAL DEVELOPMENT, development in which successive branches successively become the main stem, leaving the original main stems as vanishing vestiges.

SYNERGY, the systematic and organic working together of the opposing forces of nature.
TAXIS, classification.
TELEOLOGY, the doctrine of purpose.
TELESIS, purposive progress, conscious progress.
TELIC, purposive.
THEOTELEOLOGY, the doctrine of divine purpose.
TOCOGENESIS, affiliated growth.
ZOOLATRY, worship of animals.
ZOÖTAXY, the classification of animal forms.